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PREFATORY NOTE

The interest in all forms of financial incentives for employees and executives is a growing one, and with such interest has come the widespread need for a handy reference book describing incentives in detail.

Better systems of reward for effort of employees are being devised constantly; the alert executive will therefore welcome the present work which brings together in convenient form the best of such systems, offering suggestions for adaptation to his own organization. The executive will find in this compilation a wealth of valuable material gathered from a large number of publications and reports, and by original investigations of the Bloomfield organization covering over one thousand concerns and plans.

Grateful acknowledgement is here given to the editors and publishers through whose courtesy much of the material herein is reproduced, to the companies and executives who have made their plans available, to Gorton James who assisted in preparation of Chapters 11 and 13, and to Arthur Price who helped get the material in shape.

DANIEL BLOOMFIELD.

January 12, 1923

CONTENTS OF VOLUME I

		PAGE
PREFACE. By Daniel Bloomfield		v
BIBLIOGRAPHY		ix
INTRODUCTION. By Meyer Bloomfield		1
PART I		
CHAPTER 1.	General Considerations	5
CHAPTER 2.	Types of Wage Systems	19
CHAPTER 3.	Piece Work	61
CHAPTER 4.	Day Work and Week Work	102
PART II		
CHAPTER 5.	Principles of Bonus Plans	111
CHAPTER 6.	Bonuses for Increased Production	129
CHAPTER 7.	Bonuses for Improved Quality	244
CHAPTER 8.	Bonuses for Economy	253
CHAPTER 9.	Bonuses for Steady Attendance	278
CHAPTER 10.	Bonuses for Length of Service	298

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INTRODUCTION

This two-volume work fixes attention on the one big motive which underlies the efforts of about all who engage in labor or in management—the prospect of reward.

Much has been written of late years about natural instincts, motives and ideals in industry. That is to say, discussion has centered on human nature in employment relations. The discussion has been of value, for it is useful and necessary to realize that whole human beings, not fractions of them, are doing the work of the world.

The beginning of economic wisdom however, is an appreciation of what men want when they exert themselves.

A large amount of talk about this all-important topic has lost itself in a mist of generalization and in a forgetfulness of the motive force that keeps economic thinking on solid ground. That force is, by-and-large, a concrete financial return for effort expended. The prospect of such reward is the incentive for effort. It may not be the highest of incentives; and, surely, it is not the lowest; but positively it is the most potent.

There are, to be sure, intangible incentives and compensations; some of them of great influence. This work does not go into these. It confines itself to the practical economics of average effort in a work-a-day world. Yet this simple, fundamental presentation carries very large meanings. A large part of management's duties and a still larger part of the average worker's thinking are devoted to the problem of squaring remuneration with results, effort with return; that is to say, adjusting the proceeds of enterprise to the just expectations of those who engage in it.

There is not a more practical question than this. Indeed all others are beside the mark, unreal and remote, until the financial has been disposed of.

So the present work goes to the very core of employment practice and business relations. It discloses a variety of attempts to solve the key problem of adjusting work and pay on as approximately a satisfactory a basis as is possible.

No final formula will be found, because human expectation has not yet ceased to be a growing thing. But a large number of well-conceived, and some highly successful examples of adjustment, of incentive-stirring experiences, are carefully recorded.

The subject thus opened up in terms of actual experiences, of the things done to cooperate with that steadiest of all motives, the economic—gives rise to many reflections that bear on economic well-being.

The purpose of effort, the skill in directing it, the concrete encouragement afforded to human nature in employment and management go on record here as fully as expert knowledge and research could secure.

No more useful guide for the manager—no more serviceable handbook for the average contributor to the wants of man (and this book includes most of us) will be found than the present compilation of financial incentives.

MEYER BLOOMFIELD.

PART I

CHAPTER I

GENERAL CONSIDERATIONS

PROBLEM OF INCENTIVES UPPERMOST TODAY[1]

Old-fashioned tactics of trade unionism of the orthodox type have passed the high-water mark. The fascinating process of screwing up wages and clipping off hours has about gone to the limit under present conditions. The policy of demanding higher and still higher wages with little or no regard for the source whence the wages fund flows will no longer stand the test. If labor is to get greater returns, labor and management must accomplish more. The problem of incentives is now more vital than ever before in the history of industrial enterprise. Both the owner of the capital invested in the business and the worker who invests himself have lost the immediate and direct interest in the business which was such a notable and significant characteristic of small-scale industry.

How can the clock-watching, inert, listless, output-restricting, discontented worker be transformed into an interested, alert, pushing and efficient achiever?

And, how can the managerial staff of the corporation be given the professional spirit which will lead them to be interested in quality and quantity production rather than in more profits?

These are two of the most searching problems in modern industry today. Both problems grow out of or are at least greatly accentuated by the unprecedented growth of large-scale and corporate business.

[1] By Frank A. Carlton. Survey. 47 : 532. December 31, 1921.

BASIC PRINCIPLES OF INCENTIVE PLANS

The Committee on Labor Relations of the Cleveland Chamber of Commerce, after a study of incentive plans in Cleveland establishments[1] has formulated several basic principles which, in its opinion, should underlie incentive plans of the types under consideration and without which such plans are unlikely to prove effective. These principles are:

1. An incentive plan should have as its fundamental purpose the increasing of the value of employees' services both to themselves and their employer.
2. Such a plan should serve to promote confidence and understanding between the employer and employees.
3. To that end, the benefits to employees should be substantial and in addition to the current rate of wages.
4. The plan should not represent paternalism or philanthropy on the employer's part.
5. The participants in the plan should be informed as to the factors affecting the payment and amount of the incentive.
6. They should, preferably, be represented in the administration of the plan.
7. The plan should be designed to meet the needs of each enterprise and accomplish the worthy objects of the employer.
8. The success of any plan is particularly dependent upon the effectiveness of its management. Any plan, no matter how admirable may be its features, will fail unless it is properly managed.

THE PART THAT MANAGEMENT PLAYS IN RESULTS[2]

The general abolition of piece-work in railroad shops has confronted the managements of these shops with the problem of securing satisfactory output under a new set of conditions. In approaching this problem a clear understanding of the fundamental relations of supervision, labor incentive and labor output are highly desirable if what constitutes a satisfactory output is to be correctly determined and the condition affecting its attainment properly controlled.

[1] Cleveland Chamber of Commerce, 1921. "Employees' Incentive Plans in Cleveland Industries."

[2] Railway Mechanical Engineer. 93 : 297-9. June, 1919.

The real purpose of the piece-work system or of any of the other so-called reward systems of labor payment is to provide an incentive for the continued exercise of at least a satisfactory amount of skill and energy on the part of the workman. The prohibition now placed on all such systems of wage payment in railroad shops leaves to the workman only a portion of this incentive. It is evident, therefore, if satisfactory results are to be effected where piece-work has been abolished, that their attainment becomes more largely a matter of administration, which involves the quality and quantity of supervision and assisting adjuncts provided by the management. Basicly, the problem does not involve the question of shop practice, or shop facilities, but is confined to the relative administration of the various systems of payment under the same physical conditions.

Incentive vs. Quality and Quantity of Supervision

To some it is difficult to appreciate how satisfactory output may be assured. To the incentive referred to—i.e., the ability to voluntarily increase the earning rate by increasing output—most workmen respond at least to the point of maintaining with a minimum amount of supervision their output, even under adverse conditions of shop service and facilities, if not always to the extent of actually increasing their output beyond that represented in a performance which workmen are morally bound to give and the employer has a right to expect under a day-work system. The loss of this incentive may be made up in quality and quantity of supervision and in the conditions and facilities which may

be embraced under the general caption of supervision aids—those things outside of the supervising personnel making for the goal of highest efficiency represented by maximum output and minimum cost.

The efficiency obtainable varies with the adequacy of either or both the quality and quantity of supervision and the supervision aids, so that in order to maintain a selected or given efficiency, any loss in one of these items must be made up by an adequate increase in the other.

Effect of Variations in Wage Systems Small

Between the two extremes represented by the day and piece-work plans there are many systems,—premium, bonus, profit-sharing, etc.—which may be generally classed as divisional, because they are compromises under which the labor savings and losses resulting from increased or decreased output are divided between the employer and employee. The equity of compensation to the employee and of cost to the employer, in the case of all of them, is dependent on proper determination of the "time corresponding to satisfactory performance," since it will readily be realized that when such time is properly determined, along with the employee's hourly-rate, the workman is not concerned in the plan under which he may be paid his compensation, so long as it is equitable and in correspondence with the skill and effort which he exercises. The employee complains justly when, under any system of payment, after having adequately fulfilled his obligation to exercise during a specified time the proper amounts of skill and effort, he fails to obtain his "commensurate rate."

Under uniform degrees of management efficiency the actual differences due to variation in wage systems are relatively small: any large variation in the efficiencies

of operation under them must be due to variations in the efficiency of the methods and the management under which they are administered.

So far as the workman is concerned, the most vital factor in administration is the equitable determination of the time corresponding to satisfactory performance. Whether this time be used in the determination of a piece-work price, a bonus or premium system schedule, or the judgment of the supervising officer upon the matter of whether the workman has succeeded or failed to deliver satisfactory performance under day-work, the determination of this time is all important. If it is low under the piece-work system, the resulting piece-work price will inadequately compensate the workman. So also in the case of the bonus or premium plan, while under the day-work system, the workman may be unfairly criticized by the supervisor. If too liberal, an unfairly large piece-work price will result, which, according to experience under the piece-work system, is subsequently adjusted, i.e., lowered. These adjustments have caused discontent. The same is also true with regard to the bonus of premium schedules, while under the day-work system of operation, it results in a loosely operated, low efficiency shop.

The time consumed in the satisfactory performance of any operation under given conditions can only be determined from some sort of a time study. This is a very elastic term covering a wide range of precision and exactitude from that involved in, say, the gathering of information upon which to base a rough estimate of the time required for a day-workman to mow a lawn, to that referred to by some as of the "blood-drawing type," involving the most minute stop watch data which has, in some places, been applied to the determination of working schedules. Workmen rightfully object to the latter, especially until all conditions and adjuncts of shop operation have been reduced to a

degree of precision somewhat nearly consistent with the character of the time studies made.

Problem Wholly One of Administration

The fact that a reward system of payment is not used does not obviate the necessity of giving the time element any attention. Although not used directly in the determination of wages, the keeping of accurate output records must be of very significant value in connection with the day-work system; in fact, such records are essential to the maintenance of high shop labor efficiency. Such records form an essential part of the "supervision aids" previously referred to, which result in either (1) increasing the capacity of a given "quality and quantity of supervision," with respect to the number of workmen covered, or of (2) making it possible for the same "quality and quantity of supervision" to enhance the shop's efficiency.

The problem, therefore, is wholly one of administration, involving the provision of adequate supervision and of aids thereto, including shop records which may serve as a basis for measuring labor performance under the conditions and practices obtaining, for application to the individual workman, groups of workmen, whole departments, entire shops or to a number of shops collectively considered. To say that satisfactory outputs cannot be maintained under the day-work plan of labor payment apparently is to disregard the fundamental elements of the problem and their mutual relations.

It is, however, unreasonable with the day-work system, at a rate of, say, 68 cents per hour, to expect the exercise and delivery of the same amount of skill and effort within that hour, as under the piece-work or any other reward system of payment, in which the workman actually earns a higher rate of compensation, say the equivalent of 90 cents of 95 cents for that hour.

FITTING THE WAGE TO THE WORK[1]

Plans Eight Employers Have Used Successfuly

When all the men engaged on the same work are paid alike irrespective of what they turn out—the "slackers" getting as much as those who put in their full efforts—there is but little incentive to work harder than necessary to "get by" with the foremen. However, many manufacturers have found that making the wage the incentive to do more has worked to the advantage of the man on the job as well as to their own. The following examples offer a fair sample of the advantages which may result from giving more attention to the basis of pay.

The trouble of a manufacturer of tableware was in the plating department which absorbed about 10 per cent of the entire productive payroll. Here were prepared the surfaces of the articles through the use of caustic dips, salt water, and cyanide baths. The operatives lagged and the work moved most irregularly, although the wages were high. Experiments showed that no saving could be had by installing new equipment.

The stop watch indicated that a workman should normally finish a piece in forty-two seconds. Therefore the problem simmered down to discovering some kind of a wage incentive to make the men work at capacity. A standard output per man was measured by the watch and called 100 per cent. Then a bonus curve was started, taking 65 per cent of efficiency as zero and paying a rising bonus which reached 25 per cent at 100 per cent efficiency. Above the standard the bonus was 1 per cent for each 1 per cent of efficiency. Within a few weeks the men were making bonuses that ran anywhere

[1] By W. R. Basset of Miller, Franklin, Basset and Company. Factory. 21 : 236-8. August, 1918.

from 25 per cent to 40 per cent of their former week's pay and the flow of work left nothing to be desired. This is an illustration of how the wages which, on a flat basis, were high per article, may be made highly profitable when paid out for productive energy.

Sometimes most unexpected factors crop up in the fixing of wages—factors that are entirely human and are not ferreted out except by close investigation.

How a Detailed Time Study Detected an Accident Hazard Which Slowed up the Operation

In a punching operation each piece of stock handled weighed thirteen and one-half pounds. The operator sat before the punch and lifted the steel plates from a table on his left. The horizontal distance from the pile to the punch was about fifteen inches and the work was very hard on the puncher's wrist. A time study of the various operations showed that each operator should turn out two hundred and fifty pieces an hour, which meant the handling of a fraction over thirty-five tons of metal by each man in a ten-hour day.

"Overall" time studies of several of the most experienced men, who were kept from lagging by a guarantee of existing rates with extra pay if they came up to the standard, gave the best average performance as thirty-three and one-half tons or about one and one-half tons under standard. At first it seemed as though the fatigue of lifting so much metal during the course of the day had been underestimated—but the stop watch quickly dispelled that idea. The production was steady throughout the day, whereas if fatigue had been an element the hours at the beginning of the day would have shown a greater output than those at the end. Finally it developed that the real trouble was fear of catching fingers. If the operator happened to take up a piece less quickly than usual—after the punch head had started down—he would miss the stroke rather than endanger his hand.

Another careful study was made to determine whether it might pay to run the press more slowly, but that reduced the output more than the missing did. So here the rates were not fixed at the standard indicated by the time; it would have been unfair not to take into account the human factor of danger. Yet I have seen rates where, to make the standard, the workman had constantly to risk himself.

Another interesting wage problem came up in a book-printing plant among the operators of monotype type-casting machines. These men had been working at what was considered an efficient rate of speed. The monotype consists of two independent machines, the keyboard and the type caster. The keyboard is not unlike that of a typewriter; striking the keys perforates a paper ribbon. This ribbon is placed in the casting machine, which operates on the same principle as the player piano. The problem was to discover how much time should be taken to cast a given ribbon. First it became necessary to find a standard of measurement. Each notch on the ribbon casts one piece of type regardless of size. The number of notches on the ribbon was the obvious standard of measurement; a counter on the keyboard determined the quantity in each ribbon. It was easy to find time taken to cast a ribbon and to reduce that to a per notch time.

Other time studies gave the necessary allowances for setting up the machines and renewing the molds when type sizes were being changed. Having found all these times, a reasonable standard was fixed and a bonus of 30 per cent announced for performers finishing within the standard time. Within a month the operators were earning the bonus. They increased the production by 40 per cent and the repair time dropped from 15 per cent to 5 per cent. In that particular plant, night work

is often required during the rush seasons, and the production at night was previously much lower than during the day; with the incentive of an opportunity to make more pay the night men equaled the day operators.

One can apply motion study to almost any operation and achieve results, but the most striking ones occur in the study of gang movements. Putting team work into a gang of ten or twelve men sometimes brings almost incredible savings. Everyone knows that a football team of "stars" who have not been playing together will be beaten by a team of individually poorer players with perfect team work. It is the same with gangs of workmen.

Developing Team Work and Paying on a Basis of Work Done Reduced a Gang from Twenty-one to Seventeen Men

I discovered some years ago that a concrete mixer was expected to be attended by twenty-one men. Each gang that I observed had a method all of its own but always twenty-one men were involved. That was the orthodox number, but I decided to be a heretic. I took the good points from a number of gangs and made a new work plan which reduced the gang to seventeen and not only increased the output of the mixer but better distributed the work. Previously when the mixer was operating and therefore not receiving either sand or gravel, the men stood around and looked at it. Under the new system during this interval, they filled and made ready a number of spare barrows. More gravel was required than sand and the sand barrows piled higher; therefore we had a sand man take a barrow of gravel at every third or or fourth trip instead of a siesta. The contractor found he could increase the wages to a point that made desertions rare. He could even have doubled the pay.

Here is another gang case. A steam shovel was

excavating for a road foundation. The operating crew consisted of an engineer, a fireman, two laborers and three teams. One hundred and thirty-five linear feet of cut was held to be a big day's work, but at that rate the contractor discovered that he was paying more for excavating than he received. The stop watch put on the various movements of both shovel and men, turned up waste and lost motion at nearly every point. The shovel was not being pushed to its capacity and the men got in one another's way. It was easy to rearrange the gang so that they did not interfere with each other and then a bonus was set for all excavating done in a day above a certain amount. Within a few days the amount excavated had nearly doubled, while the cost dropped from 30 to 22 cents a cubic yard.

The manager of a branch plant in the middle west complained that he could not afford to pay his unskilled laborers more than $2.25 a day and therefore he could not keep them because the railroad construction gangs were offering $2.50 a day. The work was to break bales out of cars and truck them into two adjoining warehouses. The bales were about the same size as a bale of hay but quite a little lighter. The layout of the plant and the manner in which the bales had to be stored put mechanical conveyors out of the question. They had a good foreman on that job, but he could not see all of the men all of the time. The stop watch disclosed that, except when under his eye, the truckers did not do better than a speed of one mile and three-quarters an hour; any trucker should make at least three miles an hour.

This would not seem ordinarily to be a case for piece-rates and yet piece-rates turned the trick. Rates were set covering every possible combination of points of receiving, length of haul, and height of piling, and the men were divided into gangs of breakers, truckers, and pilers. Being paid for the amount that they did instead of for the time that they hung around the plant,

speeded all of them up until not a single man was earning less than $3 a day and instead of thirty-three men, nineteen were found to be amply sufficient. The company saved more than one-third of its direct receiving labor cost.

The chief difficulty to be encountered in the fixing of a wage incentive for a gang is that, as a rule, gangs are poorly balanced. Usually they must be reformed before anything approaching satisfactory wages can be fixed. Nearly every group of employees which has not been scientifically assembled contains in it a "neck of the bottle" and, because employees like to "soldier," it is extremely hard to discover the neck without time study. A casual observer or foreman will seldom indeed be able to detect it.

One Company Saved $5,000 a Year by Adjusting Inequalities of Assigned Tasks in Gang Work

In a factory making kitchen utensils of various kinds and values was a department in which the wares were inspected, wiped off, and wrapped. In this department were a number of tables with three operators assigned to a table—one to inspect, another to wipe and a third to wrap. They were paid by the piece on the output of the table, the inspector receiving 40 per cent and each of the others 30 per cent of the total table wage. A time study revealed the true proportions of their labor. On one type of ware for instance, the inspector's time was 100 per cent more than that of the wiper and 60 per cent more than the wrapper's. On another type, the wiper had an increased amount of work. In fact scarcely ever could the three do an approximately even amount of work—a requisite for an even flow of production.

Here the solution proved to be a new arrangement of the department. A number of extra tables were put in and, instead of moving the ware from table to table,

the girls themselves moved. Girl A, the inspector, would examine the ware on table No. 1, then move to table No. 2, and so on. Girl B, the wiper, and girl C, the wrapper, followed after her so that at no time was more than one girl at a table and each girl was paid only for the work which she did as an individual. The number of inspectors, wipers, and wrappers was regulated according to the time studies for the type of ware. If the inspection took twice as long as the wiping and wrapping, two inspectors were put on followed by one wiper and one wrapper; thus it became possible to keep each individual in the department busy. The new arrangement turned out so much more work that it was possible to reduce the day from ten to eight hours and the force from thirty-nine to thirty-two operatives.

In addition the individual wage increased although the labor time decreased. This relating of one job to another saved that company a net of nearly $5,000 a year.

Some of the Principles to Be Considered When Making Wage Adjustments

Wage incentives ordinarily are designed to increase production. Some employers, however, are afraid to put them into effect when the material used is more valuable than the labor. Thus in leather cuttings, a careless man can easily waste several times his daily wage. But it is not difficult to take care of the quality as well as the speed in the fixing of wages. A common and not altogether satisfactory method is to refuse to pay the rate on spoiled pieces, enforcing a penalty for carelessness. The danger here is that the workman may dwell too much on care and sacrifice production which means a high rate and consequently a high labor cost. On the other hand if the value of good and bad work is not correctly measured the clever workman may discover his advantage lies in turning out as many

seconds as firsts, and this again is a very expensive practice for the owner.

In many places it has been found profitable to separate the quantity and the quality ratings; that is, to pay a certain piece-rate—or whatever wage method may be employed—and then add a bonus for exceptionally high standard work, in some cases also making a deduction for exceptionally bad work. In one shop this has worked out very well indeed.

The men there operated small speed lathes on a piece-rate basis. Their quality rating was a separate matter and was determined each month by a committee consisting of the factory superintendent, the department foreman, the department inspector, and the machine foreman. The committee had before it the inspector's report on each man's work and rated him accordingly. "Perfect" was 1,000 points.

Above 900 was "excellent" and so down the scale to below 100 which was "very poor." The higher classes received bonus payments and, in addition, their members were posted monthly on the bulletin board as an additional incentive. The greatest number of men were usually in the classes calling for 700-600 of 600-500 points; but few fell into the class below 300.

The extraordinary flexibility of wage incentives makes it possible to use them to advantage in many employments where they do not, at first, seem feasible. And, if well chosen, they will commonly make labor happier and better paid while, at the same time, they usually reduce the employer's production costs.

CHAPTER II

TYPES OF WAGE SYSTEMS

TYPICAL METHODS OF WAGE PAYMENT[1]

The following is a digest of the seven principal methods of wage payment.

1. The Contract System

This method of employing and paying labor is used to some extent in shipyards and locomotive works. It is what might be called a gang piece-rate system. The employer contracts with a gang boss to do a certain part of the work—such as assembling of the valve gear of a locomotive, etc. The employer furnishes the material, tools, etc., while the contractor provides the men.

All the discipline and responsibility falls entirely on the contractor.

The method of payment under this sysytem may be either day-work or piece.

Advantages Claimed

1. It takes the burden and responsibilities of labor disputes and the like from the shoulders of the employer (leaving it all to the contractor).

Disadvantages Claimed

1. It leads to a demoralizing divorce of authority and liability. The workmen and the contractor have little interest in the upkeep of the tools and equipment and the wear and tear is very often too heavy.
2. Leads to driving of workers.
3. It is a survival of the sweatshop contractor system.

[1] Copyright 1921. Meyer Bloomfield and Daniel Bloomfield. All rights strictly reserved.

2. The Time-Rate Method

The oldest and most common method of wage payment is the time-rate, usually called day-rate. The unit of time may vary from one hour to a week or a full year. Under this system the method of payment is determined entirely by the amount of time spent on the work. The worker is paid for his time by the hour, day or week, etc. In most such cases labor is paid at an hour-rate, with extra compensation for overtime.

The usual method is to divide the workers into groups or classes and fix a minimum and maximum rate for these classes.

Advantages Claimed

1. Day-rate, while giving the workman perhaps the smaller reward as compared to other plans, in turn protects him against loss should he fail to do even a fair day's work.
2. It tends toward better quality of workmanship.

Disadvantages Claimed

1. It deprives the workman of any additional compensation in proportion to increased effort, skill or diligence.
2. The incentive to conscientious endeavor is not stimulated, thus preventing maximum production.
3. Difficult to measure what a worker does.
4. Means payment for idleness at times while worker completes one job and waits for the next job.

3. The Piece-Rate System

Straight piece-rate is the first of the production payment methods that supplanted time- or day-rate compensation. Under this method of rewarding labor the workman is paid for the amount of work performed and not the time expended. The worker is paid so much for each operation, or piece of product turned out. The compensation of the worker is proportional to his exertions. Any increase in his production would mean an

increase in his pay envelope while any falling off in his production would mean lowered daily earnings.

Advantages Claimed

1. It gives the ambitious workman the incentive and opportunity to secure increased compensation due him on account of his greater skill or diligence.
2. It stimulates greater production which lessens the cost of overhead expense.
3. It saves constant supervision and driving the workers.
4. It weeds out the inefficient and mediocre worker.
5. It eliminates discrimination and favoritism.

[*A large engineering concern which has checked up this chart makes the statement that this is not true in practise according to their experience and that in most of the shops the piece-rates are mere guesswork and consequently some very unjust rates exist. "We have found that in shops working under piece-rate systems the employer is supposed to give out the work so that each employee will receive some work which has high piece-rates and some which has low piece-rates. We find, however, that there are many cases of favoritism and discrimination by foremen in giving out the work."*]

Disadvantages Claimed

1. It does not assure a minimum day-wage.
2. It has the danger of rate cutting with resulting friction.
3. It encourages excessive speeding—detrimental to the worker's health.
4. It has the tendency (on the part of the worker) to sacrifice quality for quantity.
5. It is difficult to set a satisfactory piece-rate, one that does not require adjustments from time to time.

[*It is suggested by an engineer who has checked this chart that this is true as a general statement, but not true in many shops operating under piece-rate systems.*

The reason of this is that many piece-rates are set from detailed time studies, which are taken in accordance with Frederick W. Taylor's principles from which the Differential Piece-Rate Plan was evolved.]

6. It has danger that as the workman becomes more skilled his task will be increased.

7. Operatives on piece-work often lay off work for a day or more and then work at high speed for the rest of the week.

8. It means restriction of output to prevent rate-cutting.

4. The Halsey Premium Plan

Under this method of rewarding labor the worker is paid a day-rate with a premium for any improvement in output over the standard time. The standard time under this plan is determined by previous records of actual performance in the shop, and not a standard set up by scientific time study and a standard detailed practice.

For every hour the workman can shorten this time he is paid a fraction of his hourly wage as a premium. This premium may be one-third, or one-half of the time saved. Thus suppose the time set for a job is three hours and if the job takes actually only two hours, the worker may be paid in addition to his regular hourly rate, one-half of the time saved or one-half an hour at his regular rate. Under the one-third premium plan he would receive extra compensation for one-third of the time saved.

Advantages Claimed

1. A day-wage is assured.

2. The plan is very simple and not confusing to the workman and is thus easy to introduce.

3. Workers are rewarded in proportion to their effort.

4. The reward is immediate and substantial. (Duncan.) [1]

5. The employer, in sharing the gains of the extra exertion on the part of the worker, does not have the necessity of cutting the rate in an arbitrary manner, hence the workman's mind is relieved of the fear of having the wages reduced arbitrarily. (Duncan.) [1]

6. It is a "50-50" proposition and appeals to a sense of fairness.

Disadvantages Claimed

1. The rates are set by judgment or based on records that do not represent the workman's full capacity.

2. It relies almost entirely upon the workman's knowledge of his job (detailed performance of operations not standardized).

3. "It does not give the workman a definite goal to reach, hence the high wage paid does not reduce the output cost." (Frederick W. Taylor.)

(*The above is true only in the absence of time and motion studies.*)

The Halsey Plan

Wage: 50c. per hour. Premium: One-half time saved

Hours			Compensation				Labor cost		
Standard	Actual	Hours saved	Time wage	Premium	Total wage	Earnings per hour	No. of units made	Labor cost	Unit cost
4	4	0	$2.00	.00	$2.00	$.50	4	$2.00	$.50
4	3	1	1.50	.25	1.75	.58½	4	1.75	.43¾
4	2	2	1.00	.50	1.50	.75	4	1.50	.37½
4	1	3	.50	.75	1.25	1.25	4	1.25	.31½
Premium: One-third of time wage saved									
4	4	0	$2.00	.00	$2.00	$.50	4	$2.00	$.50
4	3	1	1.50	.16 2/3	1.67	.56	4	1.67	.41¾
4	2	2	1.00	.33 1/3	1.33	.67	4	1.33	.33¼
4	1	3	.50	.50	1.00	1.00	4	1.00	.25

[1] Duncan. Elements of Industrial Management.

5. The Task and Bonus Plan

This plan was devised by Henry Gantt and was based on having the operations studied with a stop watch, as instituted by Dr. Taylor. In fact, Mr. Gantt worked out his plan under Taylor.

Under this system a definite performance (the task) for a given time is set. If the worker can accomplish this task in standard time or less he receives a bonus in the form of an extra time allowance varying from 20 to 40 per cent of the time allowed for the task (according to the nature of the work and the degree of inducement necessary to insure the interest of the worker). If the workman fails to meet the task he receives only his basic day-rate which is guaranteed to him. This plan of wage payment works exactly like a day-rate up to the time the workman turns out the standard output and from that time on exactly like a straight piece-rate.

This plan also provides a bonus for the foreman when a given proportion of men under him earn their bonus. This encourages the foreman, not only to teach the men all he can, but to remove all obstacles before them.

Advantages Claimed

1. It insures the workman his day-rate and hence makes it easy of introduction.

2. It makes a high rate of production possible (as under the Taylor system) and offers a great inducement for high performance.

3. It reduces labor cost per unit of product.

4. It elminates all possible undue overspeeding (as is the case in straight or differential piece-rate pay systems).

5. It provides all possible assistance to the worker that may help him earn the bonus. (Training in the skill necessary to earn the bonus and also in habits of industry).

Disadvantages Claimed

1. Like the Taylor plan, the transition from inefficient time pay to standard time and bonus is made too abruptly; dividing the workers thus into two classes—those that can earn a bonus and those that cannot.

2. All but the most ambitious are apt to fall back frequently upon the guaranty.

William O. Lichtner of the Thompson & Lichtner Co. finds that there is a great prejudice against the task and bonus. "The fundamental idea of the task work is good for it gives a time measure, which instructs the workman as to the speed required to accomplish comfortably a good day's work. The term 'task' is badly chosen, however, because workmen chafe under the idea of a task and we find that 'time work with a bonus is the best.'"

The following is an excerpt from Mr. Lichtner's book on Time Study and Job Analysis, Chapter XVI, published by The Ronald Press Co., New York:

Time Work With a Bonus

Time Allowance

a. Set a standard time for all major operations of the department.

b. Allow additional time to compensate if any abnormal or unforeseen conditions arise on a job on which a standard time has been set.

c. Give each new operator who is put under instructions upon going on a job of bonus work an additional time allowance. The amount of additional time and the period over which this time applies will vary with the skill required to do the work, the length of time operator has been on the operation, and the number of changes in the method of operating adopted as standard.

d. Do not pay a bonus on the extra allowed time, but only on the standard time in which the work should be completed.

Money Payments

a. Set a base rate or rate per hour for each operation of the department. Each operator will receive the rate of the operation on which he is regularly employed.

b. The bonus will be a percentage addition to the "Standard Time" provided the time taken to do the job is equal or less than the time allowed. Otherwise, the operator will be paid at the base rate for time taken.

c. When starting on bonus work, an operator who does not earn more than his present rate will be guaranteed this rate for a period of not more than three months. This will be called his guaranteed rate.

d. When a bonus worker is required to work for less than a day on work of his own class which cannot be put on a bonus, he will be paid the base rate for the time actually put in on this work.

e. When a bonus worker is required to work for a day or longer on work of his own class which cannot be put on a bonus, and if he has been earning his bonus 75 per cent of his total working hours for the past period, he will be paid on the same basis as the average of his past month's earnings.

f. When a bonus worker is transferred to a different class of work, he will be paid the base rate and bonus on his regular work, provided the work is done within the standard time, unless he can make more money on bonus at the new job.

g. In case a bonus worker makes a mistake in his work and does not rectify it at the time he does the work, he will not receive his bonus. No worker will be given additional time to correct his mistake. If any work is discovered to be faulty by another department, the amount of bonus paid for the job on which the work is faulty will be deducted from bonus earned and not yet paid.

h. The overseers or foremen will be on a day work basis with no bonus payments as they represent the company and are responsible for the quality and quantity of the product.

i. A bonus worker earning a bonus as designated in paragraph b will be paid for the time allowed plus the bonus on the time allowed.

THE GANTT TASK AND BONUS PLAN

Wage: 50c. per hour. Bonus: Minimum and maximum

Hours			Compensation								Labor cost			
Standard	Actual	Time saved or lost	Time wage	Bonus		Total wage		Earnings P. H.		No. of units made	Labor cost		Unit cost	
				20%	50%	20%	50%	20%	50%		20%	50%	20%	50%
4	6	—2	$3.00	$.00	$.00	$3.00	$3.00	$.50	$.50	4	$3.00	$3.00	$.75	$.75
4	5	—1	2.50	.00	.00	2.50	2.50	.50	.50	4	2.50	2.50	.62½	.62½
4	4	0	2.00	.40	1.00	2.40	3.00	.60	.75	4	2.40	3.00	.60	.75
4	3	+1	1.50	.90	1.50	2.40	3.00	.80	1.00	4	2.40	3.00	.60	.75
4	2	+2	1.00	1.40	2.00	2.40	3.00	1.20	1.50	4	2.40	3.00	.60	.75
4	1	+3	.50	1.90	2.50	2.40	3.00	2.40	3.00	4	2.40	3.00	.60	.75

6. Differential Piece-Rate (Taylor) Plan

This method of payment known as the Taylor Differential piece-rate is based on careful time studies as a preliminary to fixing any rate of compensation. The task or number of units which a workman can produce in a given time is determined and taken as a standard. Two piece-rates are then set for the work, a high rate if the worker does his task in the standard time, or less, and a lower rate, if he fails to do his task in the standard time set.

Under this plan the workman receives not only a high piece-rate if he reaches and exceeds the standard, but receives the full piece-rate per piece as his production rises, after he has attained the standard performance.

Advantages Claimed

1. It pays a wage more commensurate with the effort of the worker.
2. It reduces to a minimum the chance of fixing the rates out of all proportion with existing standard of wages.
3. It eliminates the necessity of cutting rates, a practice so disastrous to employee and employer alike.
4. It stimulates the worker toward maximum production.
5. It penalizes the workman if he fails to put forth his best efforts, since the low piece-rate is set purposely low to spur the man to try to attain the higher rate.

Disadvantages Claimed

1. A day-wage is not assured to the worker.
2. There is the danger of undue overspeeding (as in the case of straight piece-rate method of payment).
3. It does not leave enough room for initiative on the part of the workman to originate betterment in practice (since the time set is already predetermined and standardized by the time-study man).

THE TAYLOR DIFFERENTIAL PIECE-RATE SYSTEM

Low rate: 40c. High rate: 50c.

Hours			Compensation				Labor Cost	
Standard	Actual	Time saved or lost	Time Wage	Wage per day	Rate per hour	No. of units made	Labor cost	Unit cost
4	6	—2	$1.60	$1.06⅔	$.26⅔	4	$1.60	$.60
4	5	—1	1.60	1.28	.32	4	1.60	.52½
4	4	0	2.00	2.00	.50	4	2.00	.50
4	3	+1	2.00	2.64	.66⅔	4	2.00	.37½

7. THE EMERSON EFFICIENCY PLAN

Under this method of compensation a day-rate is paid with a gradually increasing bonus after an output of 66 per cent of the standard has been attained (i.e., the workman is supposed to be about ⅔ as efficient as the average man could be). No bonus is paid the worker unless his efficiency reaches 66⅔ per cent. At this point he receives a very small bonus, but the bonus increases as his performance rises till at 100 per cent efficiency he receives 20 per cent of his day-rate as a bonus i.e. at 70 per cent 2 per cent; at 80 per cent, 3 3/10; at 90 per cent, 10 per cent; (e.g. at 100 per cent efficiency he receives 20 per cent of his day-rate as a bonus).

The unit of efficiency is determined for a period of time, such as a day, week or month and not for individual operations or jobs.

ADVANTAGES CLAIMED

1. It assures the workman his day-wage.
2. It establishes a standard performance that represents a full and fair task for the worker.
3. It offers a large bonus for the attainment of the standard (as in the Gantt task bonus plan), but smaller bonuses may be earned before reaching the standard.
4. It provides for increasing efficiency not only on separate jobs, but per day, week, or month (while the other plans have the individual jobs as a basis) preventing possible overspeeding on individual jobs with resulting exhaustion and lowered efficiency on subsequent jobs.
5. It provides for a constantly reduced labor cost per unit of product as the efficiency of the worker and his earnings per hour increase (even after the worker has exceeded 100 per cent efficiency).

DISADVANTAGES CLAIMED

1. There is the same objection to this plan as to other plans which set a task arbitrarily and without consulting the worker.
2. While the plan assures the worker a day-wage, it does not assure him a wage as high as in plants where there is no "efficiency" plan.
3. The plan sets a goal which few can reach without overstrain.
4. The standard of accomplishment is set so high that it is almost impossible for an operative to be more than 100 per cent efficient.

THE EMERSON EFFICIENCY BONUS PLAN

Hours			Compensation					Labor Cost		
				Bonus						
Standard	Actual	Percentage efficiency	Time wage	% wage	Time amount	Total wage	Earnings per hour	Labor cost	No. of units made	Unit cost
4	6	66⅔%	$3.00	0%	$0.00	$3.00	$.50	$3.00	4	$.75
4	5	80 %	2.50	3.3%	0.08	2.58	.52	2.58	4	.65
4	4	100 %	2.00	20%	0.40	2.40	.60	2.40	4	.60
4	3	133 %	1.50	53%	0.80	2.30	.77	2.30	4	.58
4	2	200 %	1.00	120%	1.20	2.20	1.10	2.20	4	.55
4	1	400 %	.50	320%	1.60	2.10	2.10	2.10	4	.52

DISCUSSION OF PAYMENT SYSTEMS [1]

Various modifications of these payment methods have been suggested. Mr. Hugo Diemer describes in his book, Industrial Organization and Management, a combined bonus and premium plan in which 20 per cent of the hourly wages was paid as increase if work was done in standard time, and a further "gain-sharing bonus," on the Halsey premium plan, was paid if work was done in less than standard time.

The task and bonus plan may be applied as a rate per hour, with the addition of any desired extra compensation for time, attendance, length of service, quality of product. To this may be added a flat rate per hour extra for all product turned out in standard time, instead of paying the bonus as a percentage of the time allowed.

There are many advantages in any plan which allows a considerable part of the wages to be paid on an hourly basis, with further increases to those who approach or exceed standard output. The efficiency reward should be at least 20 per cent of the total wages or it will not be large enough to act as an incentive. One recommended plan is a time- and piece-rate for all product over a given minimum, the piece-rate beginning with a production of from 50 to 66⅔ per cent of standard.

The time-rate may depend upon efficiency, versatility, length of service, attendance, quality of work, etc., and gradually increase with the operator's progress in these several fields. This time-rate should be paid in any case whether operator's output is high or low, although if the operator constantly produces the greatest output, he will receive a higher time-rate for this ability.

The piece-rate for production over a given quantity should begin at a standard that is not so high as to

[1] From The Wage Setting Process. Bulletin. Federal Board for Vocational Education. 1920.

discourage the less efficient. It is desirable that all eventually receive a considerable part of the total wages as a result of ouput.

Such a plan gives a reasonable latitude in periods of rapidly fluctuating wages, such as we have just been experiencing during the war. The piece-rate and the standard output will remain unchanged. The modification in wages to meet advancing going rates will be made in the time-rate.

After an operator has received a given time-rate it is always to be hoped that this rate will never be lowered even if the general scale of wages declines. With such a plan as the above it may be possible to maintain a scale as established, but arrange that as new employees are hired, during a cheaper labor market, they will receive hour-rates conforming more nearly with going rates of wages. No injustice is done those employees who may receive lower hour-rates, as their length of service, efficiency, and knowledge of various operations must be less than that of the older employees who have reached the higher rates.

Any piece-rate, either straight piece-rate or differential piece-rate, once established must never be reduced unless the task is simplified so that by mutual agreement between operators and management a lessened piece-rate is accepted.

If this policy is agreed upon it is apparent that when a high rate on a straight piece-rate basis is put into force, under stress of a high labor market, it becomes a permanent part of costs.

If such is the case there is no possibility of reducing costs as far as labor itself is concerned except by higher efficiency, improved methods of production, etc., but as changes of this nature come only gradually a considerable burden may be laid upon an organization because it has no chance to modify its labor costs in proportion to the labor market.

It is assumed that any progressive concern will desire

to pay as high a wage scale as possible and equal to or above going rates of wages for similar work in the same locality. But this need not mean, if general living costs are reduced and if with this reduction an easier labor market occurs, that the high wage made necessary by a period of stress should be continued for all new employees.

Mr. Hugo Diemer in his book shows by graphic charts the influence of increased output on the wage under the different wage systems.

If production time is reduced 50 per cent:
Day-rate does not vary.
Piece-rate shows 100 per cent increase in earnings.

Taylor differential piece-rate—
20 cents per piece, low.
30 cents per piece, high.
200 per cent increase in earnings.

Halsey 50 per cent premium—
50 per cent increase in earnings.

Rowan premium—
50 per cent increase in earnings.

Gantt task and bonus (30 per cent basis)
140 per cent increase in earnings.

Emerson efficiency—
120 per cent increase in earnings.

Time and piece for quantity production—
170 per cent increase in earnings.

A plan that has worked successfully in some places is to determine a reasonable day's output and arrange for all operators finishing the task to have the privilege of "calling it a day" and leaving, or staying and turning in as much extra work as they wish. This plan presupposes a carefully determined output and thoroughly planned methods of operation.

Most working men, if not women, are ready to work a reasonable number of hours a day. If the wage system will pay in accordance with the production of each individual, the able employees will produce as much as they are capable of doing, and will generally prefer to take their "time off" when they want it.

One other very important matter to bear in mind when adopting any of the systems of payment, other than the day-rate, is to have the pay system itself thoroughly understood by every operator. "The payroll department should be brought to the operator;" in other words, so arrange the method of computing earnings that each operator will be constantly informed of his output and earnings from the start to the finish of the payroll period.

This can be done by posting each job's earnings to an employee's ticket, which can be a duplicate of that furnished the payroll and cost departments. Any plan that fails to give continuous information to each operator of his progress on each job turned in, loses a large part of the incentive value of a production payment method; furthermore, such a method will be disliked by operators in general, although they may not mention it.[1]

Chart of Wage Systems

The chart reproduced on page 34 gives comparisons of the various wage-payment methods.

The percentage of production has no influence on wages, which will always remain at 100 per cent, regardless of whether the operator produces 10 or 300 per cent.

Straight piece-rate or the low rate of a differential piece-rate plan coincides up to 100 per cent, when the differential piece-rate is increased, perhaps, 50 per cent and then is increased in proportion to increased production as indicated.

"Time- and piece"-rates above a certain minimum (in this case taken at 60 per cent, correspond with day-wages up to the time that output equals 60 per cent of standard, when they change to a piece-work plan for all increased production.

[1] Other wage payment plans in use include the Barth Premium Plan, Knoeppel Bonus Plan, Bedeaux Plan, Merrick Piece-Rate Plan, Ficker Plan, Baum Plan.

The Gantt 30 per cent bonus plan follows the line A-C-H, increasing 30 per cent over day-wages at 100 per cent production, and from then on increasing in the proportion indicated.

The Emerson efficiency plan begins to increase wages at 66⅔ per cent and pays 20 per cent more than

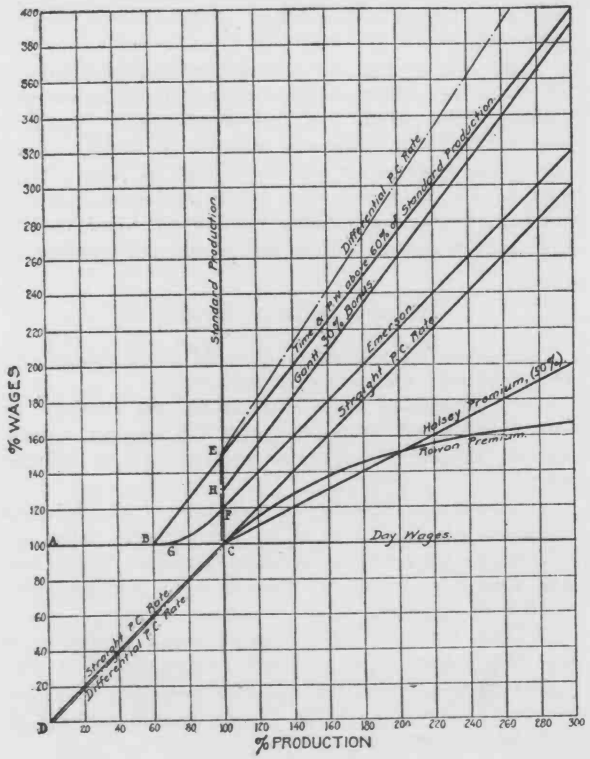


CHART OF WAGE SYSTEMS

day-wages at 100 per cent production; from then on it pays the percentage as shown.

The Halsey premimum method pays day-wages (line A-C) until production is equal to the best previous record (here assumed to be 100 per cent). All increased output is paid in the proportion indicated.

The Rowan premium plan differs from the Halsey as indicated.

WAGE PLANS [1]

- **Wages**
  - **Time Bases**
    - Hourly
    - Weekly
    - Monthly
    - → Fixed Rates Changed by
      - Duration
      - Promotion
      - Supply and Demand
  - **Production Bases**
    - Piece-Work
      - Individual
      - Gang
      - Pooled
    - Contract
      - Tasks
      - Allotments
      - Sub-contracting
    - Production Bonuses or Premium
      - Individual
        - Taylor
        - Gantt
        - Halsey
        - Rowan
        - Emerson
        - Ficker
        - Baum
      - Gang
        - General Motors Corp.
  - **Service Bases**
    - Production plus quality
    - Production plus length of service
    - Production plus personal interest
      - Attendance
      - Punctuality
      - Suggestions

[1] From Circular No. 8. Bureau of Commercial and Industrial Relations. University of Wisconsin.

WAGE SYSTEMS AT THE WESTINGHOUSE ELECTRIC COMPANY [1]

The ideals of any plan are good wages and low unit cost, or those conditions which make for quality, quantity, minimum waste, and a satisfied body of workmen. The latter is by far the most important, as it is necessary to have a contented organization before the other results can be obtained. We believe the wage-payment plan which approaches these ideals the most closely is our "standard time" system. Before discussing this method let us review briefly the other Westinghouse wage-payment plans, which are day-work, piece-work, premium, group, and task-work.

More supervision is required on day-work than contract work, to see that employees produce a fair day's work, but closer inspection is required on contract basis to get quality. By contract work is meant any system other than straight day-work. All contract plans generally bring about greater quantity, lower unit cost, and greater ease in cost prediction and distribution than day-work.

Great precaution should be exercised when changing from one wage-payment plan to another. Such a change is a grave one and the conversion should be so planned that the workman earns as much or more than before.

There is likely to be a misunderstanding as to the meanings of several terms applied to our wage systems. Base time, as we use that term at the Westinghouse plant, is not standard time or time allowed, but the minimum time in which the best man can do a job under the best conditions. Standard time is that in which the average man can perform the job. Time allowed is that which is considered necessary to make a fair wage, or is the same as standard time in the task and bonus and standard-time systems. Time limits on premium work are generally about twice standard time.

[1] From the experiences of the Westinghouse Electric and Manufacturing Company. Factory. 25 : 1563-6. November 15, 1920.

THREE COMMON WAYS OF CALCULATING WAGES

1. Day-Work
   Wages=rate×hours worked
   Example: 50 cents=hourly rate
   8=number of hours worked
   Wages=8×0.50=$4.00
2. Piece-Work
   Wages=Number of pieces×price per piece
   Example: 45 cents=price per piece
   14=number pieces completed
   Wages=14×0.45=$6.30
3. Premium
   Wages=premium rate×time taken+½ premium rate×(time allowed—time taken)
   Example: 40 cents=premium rate
   8 hours=time allowed
   5 hours=time taken
   Wages=.40×5+½.40c. (8—5)=$2.60

How Three Payment Plans Work

Day-work is the oldest plan, and probably still the most used. The oldest form with an incentive is piece-work; with the premium plans there is a considerably higher incentive

Now let us take up the various plans in detail, one at a time.

1. The oldest plan and perhaps the one most used today is that of day-work, wherein payment is made by the hour, day, week, or month. We pay for day-work by the hour.

More than 50 per cent of our shop employees are day-workers. Its simplicity makes it easy in figuring payrolls and easily understood by workmen. The lack of incentive is a drawback which retards quantity production and tends to slow up the fast worker to the pace of the slow. However, some incentive can be added in the form of increases as a recognition of individual ability. Day-work is flexible in so much as rates can be changed easily to comply with current prices paid for labor. It is difficult to proportion day-work costs. However, it is often the only method of adequately paying for work the nature of which changes rapidly

or where quality is the consideration of prime importance.

2. The oldest method of wage payment with an incentive is piece-work.

Piece-work, at right prices, effects quantity of production, ease in cost accounting and distribution, lower unit cost, and satisfaction and proportional wages among workmen. Too often piece-work-rates have been established by guesswork rather than by facts and scientific investigation.

When workmen made abnormal wages under improperly set piece-work-rates, the rates were cut and dissatisfaction followed. Unless the workers have unusual confidence they fear the cutting of piece-work prices and will not produce to the extent of their ability.

Workmen should be encouraged to make all they can and no cuts should be made unless the manufacturing methods are changed enough to warrant such action. For this reason piece-work is inflexible and very undesirable when it is necessary to make wage adjustments to take care of length of service, improved workmanship, and changes in the labor market. Many employers think they are paying for what they get on piece-work, but this is not true if employees loaf on the job. Indirect or overhead expenses are constant regardless of quantity of production.

Piece-work is best suited to departments where tools and methods are well standardized and where a large number of like pieces are produced. Piece-work is undesirable to the extent that it does not take care of the differences in individuals as to ability and spoiled work. Some workers are capable of doing a great variety of work or of building special parts.

When put on special jobs these men get no more than the specialists with their knowledge of only one or two jobs. Again, two men doing the same kind of work and turning out the same amount of product receive the same earnings regardless of the amount of material that one of the two might spoil.

3. In our premium plan a worker is paid for the actual time he takes on the job at his regular rate, and in addition he is paid at one-half his regular rate for any reduction in time allowed. The premium incentive is high, the guaranteed rate low, the unit cost small, the earnings fair, and the accounting complicated.

4. How Wages are Figured by the Group Premium Plan

	(a) Check Numbers	(b) Hours Worked	(c) Premium Rate	(i) Time paid for (b×h)	(j) Earnings (c×i)
	1	86	.30	133.5	40.05
	2	92	.36	143.	51.48
	3	98	.42	152.	63.84
	4	104	.48	161.5	77.52
Total		380		590.0	232.89

(d) Total time allowed, (from limit cards)=800 hours
(e) Total premium time (d-b)=420 hours
(f) Group share of premium time (½ of e)=210 hours
(g) Total time (b+f)=590 hours
(h) Percentage increase over time taken (g÷b)=155 per cent.

A Plan With a High Incentive

When group production determines payment the better workmen will not tolerate the poorer ones. This plan encourages attendance, simplifies inspection, and provides supervision without extra cost.

4. An application of our premium system is that of premium payment on group work. The method of calculating the wages for each member of the group is clearly shown in the illustration above.

A number of workmen, preferably not exceeding ten, are grouped together under a leader. The leader attends to the supply of materials and tools, supervises the work, and helps with the work when not engaged on other duties.

A time limit is placed on each piece of apparatus. The earnings of each individual in the group are his hourly- or premium-rate multiplied by an increased time. This increased time is calculated by multiplying the time worked by each man by the ratio of

$$\frac{\text{time taken} + \frac{1}{2}\ (\text{time allowed} - \text{time taken})}{\text{time taken}}$$

Individual time slips are not used, as the time is calculated from check board readings or clock cards.

Group work eliminates poor or undependable workmen because the other members of the group will not tolerate loafing or incapability. It also simplifies accounting by eliminating individual time slips, encourages attendance, simplifies inspection, and provides its own supervision without extra cost.

5. Wages by the Task Work Plan
Wages=rate×hours worked (if task is not met)
Wages=130%×rate× task (if task is met)
Example: 4 hours=task
40 cents=guaranteed rate.
Wages=5×40=$2.00 if done in 5 hours
Wages=130%×40×4=$2.08 if done in 4 hours or less

A Plan With A High Incentive

The guarantee rate is too low to stimulate a poor worker. With good workers, however, this plan results in quantity production and high wages

5. Workers on the task plan are paid a bonus of 30 per cent if they perform the task in the time allowed; otherwise, they receive their guaranteed rate. The above illustration shows how wages are calculated by this plan.

One can readily see the high incentive to perform the task in the time allowed. Tasks should be very closely set so that only the efficient and those fitted for the work can make out. The guaranteed rate is so low that there is very little inducement for those who cannot meet the task.

Task accounting and cost distribution are comparatively simple and the system is easily understood by workmen. However, the guaranteed rate discourages

beginners to learn very difficult work. Task work, like other contract plans, makes for quantity production and high wages.

Why the Standard-Time Plan Is Better

6. The Standard-Time Plan of Wage Payment
Wages=Standard time×standard-time-rate (if work is done in standard time or less)
Wages=Time taken×day-rate (if work is not done in standard time)
Example: 54 cents=guaranteed day-rate
60 cents=standard-time-rate
4 hours=standard time
Wages=4×.60=$2.40 if work is done in standard time or less
If done in 2 hours, hourly earnings=$1.20
Wages=4½×.54=$2.43 if it takes 4½ hours to do the job

The Company Favors This Plan

"Our standard-time plan has been established to overcome many disadvantages and combine the advantages of other wage-payment plans"

6. Our standard-time plan has been established to overcome many of the disadvantages and combine the advantages of our other wage-payment plans. Standard time is a reasonable time in which a job should be done by an average man. Labor is paid for at a prevailing day-work rate if a job is not done in standard time and a corresponding higher rate is paid if the work is done in standard time or less.

With the high guaranteed day-rate the earnings of the new man are higher than they would be under any of our other systems except straight day-work. This system is easily understood and very attractive. For example—a guaranteed rate of 35 cents per hour and 39 cents per hour for extra effort is more attractive to the new man than a guaranteed rate of 26 cents per hour

and 39 cents per hour for extra effort as in our premium system.

Let us make a comparison of the standard-time system with the premium, task and bonus systems.

Hourly earnings for the efficient man, or for the one who does a job in less than standard time, are greater than on premium work because the worker is paid for his increased efficiency at a higher rate than on premium.

The standard-time plan has a high day-rate and low incentive, and the task and bonus system has a lower day-rate and higher incentive. The fundamentals of both systems are similar.

7. A COMPARISON OF THE STANDARD-TIME AND PREMIUM WAGE-PAYMENT PLANS

	Premium Cost Per Operation	Standard Time Cost per Operation	Difference in Cost	% Decrease in Cost	Time Taken Premium Plan	Time Taken Standard Time Plan	Reduction in Time	Premium Earned Rate	Standard Time Earned Rate
	.159	.104	—.055	+34.6	.158	.098	.060	1.00	.93
	.055	.058	+.003	5.5	.073	.060	.013	.75	.91
	.263	.262	—.001	+ 0.4	.370	.276	.094	.71	.88
	.363	.347	—.016	+ 4.4	.551	.347	.204	.66	1.09
	.198	.128	—.070	+35.3	.230	.105	.125	.86	.935
	.137	.098	—.039	—28.4	.149	.114	.035	.84	.780
	4.040	3.680	—.360	+ 8.9	5.400	3.730	1.670	.748	1.026
	1.010	.023	—.087	+ 8.6	1.540	1.040	.500	.66	.906
Total	6,225	5.600	—.625		8.471	5.770	2.701		
Average				10.00				.778	.932

Average reduction in time 31.9 per cent.
Average decrease in cost of labor 10 per cent.
Average increase in earned rate 19.8 per cent.

How Two Different Plans Line Up

Comparing the standard-time with the premium plan shows how the first of these is better both for the company and for the employee The table has been compiled from actual cost data in one of the departments

The statements advanced in favor of our standard time are for the workmen's benefit, so that one might ask "Where does the company get off?" The table "Comparison of Standard Time and Premium Wage Payment Plans," above, shows the advantage of standard time to

the company as well as to the employee. The table has been compiled from actual cost data in the large industrial motor department.

This department recently changed several sections from premium to standard-time. The table shows that the time on the eight operations was reduced nearly 32 per cent, labor cost was decreased 10 per cent, and workmen's earnings increased by 20 per cent.

The system can be applied to any work on which it is possible to set a time limit. It is as flexible as day-work. On account of its simplicity it is easy for workmen to understand and makes accounting easy. The high day-rate is commensurate with prevailing rates in the community. Although the incentive appears small, an employee can earn at least as much as he could by putting forth the same effort on any of our other wage systems under the same working conditions.

Some people think that an employee who makes abnormal wages under a proper time limit should not be increased in pay. This is a fallacy, and one should bear in mind that the more one accomplishes in a given time, the cheaper will be the unit cost. This brings up the question of "going too fast." After reaching a certain rate of speed the wear and tear on men, machines, and tools is sufficient in turn to produce an increase in unit cost, so the whole problem of how much a man should produce simmers down to a matter of good judgment.

With wage-payment plans such as task and bonus, or standard-time, where the time limits are set very closely, all failures to meet the time should be carefully followed by some card or performance-chart system to determine the cause of failure.

An attempt has been made to show the advantages and disadvantages of the Westinghouse wage-payment systems. After all, the success of any system depends primarily on a knowledge of the correct time in which the jobs should be done.

Wage System	Advantages	Disadvantages	Method of Calculating
Day-Work	Simplicity; ease in accounting; easily understood by workmen; flexible; makes for quality; is easy to apply to variable work.	No incentive for quantity production; difficulty in cost prediction and distribution; makes fast worker slow; high unit cost.	DR=Day-rate H=Hours worked W=Wages W=H×DR
Piece-Work	Simplicity; ease in accounting and cost distribution; effects quantity production and low labor cost; proportioning of wages according to amount done.	No guaranteed rate; not flexible; hard to change rates; makes dissatisfied workmen; requires close inspection.	PP=Price per piece N=Number of pieces W=Wages W=N×PP
Premium	Effects small labor cost; agreeable to workmen; flexible.	Low guaranteed rate; unsatisfactory for beginner; makes complicated accounting; requires inspection.	PR=Premium-rate TA=Time allowed TT=Time taken W=Wages W=PR (TT+½ (TA—TT))
Group Premium	Simplicity; ease in accounting; flexibility; high incentive; effects quantity production and low labor cost.	Complicated accounting; low guaranteed rate; not attractive to new men.	PR=Premium-rate TA=Time allowed TT=Time taken W=Wages W=PR (TT+½ (TA—TT))
Task	Effects small labor cost; simplifies inspection; provides supervision at small cost; eliminates poor workmen and individual time slips; encourages attendance.	Requires inspection; low guaranteed rate; not attractive to new men.	TT=Time taken TR=Task-rate TA=Time allowed 30%=Bonus W=Wages W=TA (TR+.3 TR) if task is met W=TT×TR if task is not met
Standard Time	High guaranteed day-rate; simplicity; easy for workmen to understand; high earnings; low cost; quantity production; ease in accounting and cost distribution; flexible.	Requires inspection; and a close follow-up when standard time is not met.	SR=Standard-Time-Rate TA=Time allowed DR=Guaranteed-rate HW=Hours worked W=Wages W=SR×TA if completed in standard time W=DR×HW if it is not met

How wages are calculated by the six plans used by the Westinghouse Company, and what the advantages and disadvantages of each are

WAGE PAYMENT SYSTEMS IN MACHINE SHOPS[1]

Factors Involved in Determining Wages

There are three factors involved in determining what the scale of wages ought to be. These are (1) the effect on the cost of production; (2) the effect on the employee; and (3) the possibility of applying a certain method of wage payment to the particular work in question. While there are a great many methods of wage payment, they can all be summarized into three main groups, as follows: (1) Paying a man for the *time* he spends at work; (2) paying for the *amount* of work done; and (3) sharing the profits of the work with the man. The first method is generally termed "day-work"; the second is some kind of piece work, and the third is a reward not only for the employee's direct work, but also for faithful service over a specified period of time. It consists of an annual distribution of profits, and makes it necessary that the man should have been with the concern for a period long enough to be entitled to share in such profits. In modern industry, paying a man for the amount of work he does is becoming more and more common; its various modifications being known as straight piece-work, premium, task-and-bonus, and standard time systems.

The Day-work Method of Wage Payment

In the past, it has been the common practice to pay a fixed hourly- or daily-rate. In the machine industries today, when this system is used, the unit is the hour. The disadvantages of the day-work system are that, when no records are kept of the time taken on individual operations, each man on the same class of work

[1] By W. D. Stearns, Secretary of the Occupations and Rates Committee of the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. Machinery. 25 : 1115-16. August, 1919. Reprinted by permission. Copyright 1919, by the Industrial Press, New York.

receives the same wage, regardless of the work that he does. Consequently, the more efficient worker finds that he receives little more than men who do less work than he. If he is given a higher rate, his fellow-workers will be dissatisfied. If adequate records are not kept to show differences in performance, an increase in the rates paid to a few men is likely to cause trouble. The more industrious men become discouraged, cease to put forth extra effort, and soon fall to the level of the less able workers. It was doubtless this system that brought about the organization of labor unions, because the only way in which a man could increase his earnings to any extent was by obtaining higher wages for a whole group of men engaged on the same class of work.

When records of the performance of each man are kept, it is possible to determine when wage increases are justified, even with day-work. However, even then the increase in reward is not automatic, as it is under some form of piece-work, and there is no direct connection between the effort and the increased compensation.

Advantages of the Day-work System of Wage Payment

On the other hand, the day-work system has several advantages, and in small plants employing not more than about one hundred men, where the manager is in close contact with every employee, the day-work method may prove satisfactory. It has the advantage of simplicity in keeping the payroll; it is easily understood by the employee; and it is believed that the inspection expense can be reduced, because there is no incentive for the workman to hurry and thereby slight his work. When special care and accuracy are required in work which should not be hurried and which cannot be easily inspected, day-work is doubtless the best method of paying for the service. There are certain jobs that require little more than the presence of the employee; these should

also be paid by day-rates. This class of work includes the operation of elevators, the firing of steam boilers, etc. There are also certain classes of work where the output is limited by the speed or the capacity of the machine and not by the effort of the operator; the day-work system is the one to employ in such instances. In addition, there are a number of cases where the work is not uniform in character, and where it is difficult to measure what would be a reasonable output in a given time. Patternmaking and toolmaking have been thought to come within this class, although, during recent years, some work of this kind has been placed on a piece-work, premium, or bonus basis, and this has resulted in increased earnings for the men and decreased labor cost for the manufacturer. In general, production will never rise to its possible limits under the day-work system. An incentive must be given for extra effort and one of the piece-work plans of wage payment will furnish this incentive.

Contract Systems of Wage Payment

The term "contract system" is used to include all systems in which the employee is paid for the *amount of work done* instead of for the *time spent* on the work. Any such system, to be successful, must provide all possible help to the employee in regard to machines, tools, materials, and instructions. The workman should be asked to perform only operations for which he has been especially trained, or with which he is familiar; while other labor should do the less important things in connection with the work, such as moving materials, getting tools, blueprints, etc. To obtain the best results, it is necessary that the employee be taught to perform the operations according to the methods determined by the careful study of experts. Furthermore, contract prices, when once established should not be changed unless the methods of

performing the operation are materially altered or unless there is a change in equipment or material.

Formerly, contract prices were established either from records of previous performances or from estimates by a foreman. Most of the dissatisfaction with contract rates on the part of the workmen has been due to incorrect prices determined in this manner without sufficient knowledge of the conditions. If the contract prices are cut as soon as a workman is able to earn a high wage, he naturally loses his desire to exert additional effort. He will make a studied effort to limit production to the maximum that he thinks is safe without having the price cut.

Advantages and Disadvantages of Straight Piece-work

In straight piece-work the amount due the workman is determined by multiplying the number of pieces completed by a set price per piece. In this system all the saving in direct labor cost goes to the workman, while the employer benefits by the increased production and the resulting decrease in overhead cost per unit of work. The main advantages of the piece-work system are the facility with which costs can be determined in advance; the ease with which the payroll is kept and the simplicity of the system to the workman. It is generally recommended that the straight piece-work system be applied only where the degree of skill is not an important factor, where the work can be inspected easily, where it is of a repetitive nature, and where the operations are few and simple.

The disadvantages of straight piece-work are: (1) It is difficult to apply when the operations are not fairly uniform over a considerable length of time; (2) it is not easily adjusted to take care of the fluctuations in the average price of labor; (3) it bears no relation to the value and the skill of the man, apart from his ability to perform a certain operation within a given time;

(4) the employee is not guaranteed a minimum day's pay; (5) adjustments cannot be easily made to take care of conditions beyond the operator's control, such as failure of power, breakdown of machines, and poor material.

Methods of Overcoming the Objections to Straight Piece-work

Various methods have been devised for overcoming some of the objections to straight piece-work. The fourth disadvantage, mentioned in the preceding paragraph, may be eliminated by establishing a day-rate for each employee, which is guaranteed to him. If for any reason, he is unable to earn as much by piece-work as the equivalent of this guaranted rate, then he is paid at the guaranteed rate instead of at the piece-work-rate; in other words, he is always assured of a minimum pay per day.

A modification of the straight piece-work system is known as the differential piece-work method. This makes use of two piece-work rates for the same job. A standard time is established in which the job should be performed. If it is not performed in the standard time, or less, the lower of the two piece-work-rates will be paid, but if it is performed in standard time or less, then the higher rate will be paid. In this way, an additional incentive is given for increased effort.

Group System of Wage Payment

When a number of men work together, as in assembly work, it is difficult to pay piece-rates to each individual. In that case it is an advantage to consider them as a group under a gang boss. A maximum labor cost is then placed upon the work to be performed by them. When the work is finished, the total earnings of the group will be equal to the sum of the day-rate wages of each man plus half the difference between their wages and the

maximum labor cost estimated for the work. Each man's share in this additional bonus is proportional to his hourly-rate and the number of hours that he has worked on the job. Generally the individual is guaranteed a day-rate. This system is often used where the output of one workman is directly dependent upon the output of other men. Certain classes of foundry work, assembling operations, and riveting may be mentioned as examples of work which are adapted to the group system.

Premium System of Wage Payment

In order to establish a premium system of wage payment, time studies are required for determining a standard time in which the work should be performed. This standard time should be the time required by an average operator working under average conditions. When the work is completed in less than the standard time, the operator is paid at a certain hourly-rate—the premium-rate—for the time saved, in addition to his regular rate. The premium-rate generally varies from 25 to 50 per cent of the regular hourly-rate.

As an example of this method, assume that the standard time for a piece of work is six hours, and that the workman is paid at the rate of 40 cents an hour. Assume, further, that the premium rate is 50 per cent of the regular rate, or 20 cents an hour. If the man performs this work in six hours, he will be paid at his regular hourly-rate, or $6 \times 0.40 = \$2.40$. If he performs it in four hours, he will be paid the hourly-rate for four hours, and, in addition, the premium-rate of 20 cents an hour for the two hours saved. His pay for the job would be $(4 \times 0.40) + (2 \times 0.20)$ or $1.60 + 0.40 = \$2$. This is for four hours' work, which makes his rate 50 cents an hour. His day-rate is always guaranteed so that should he require more than six hours in which to perform the job, he will still be paid his regular hourly-wage for the total time that he takes for the work.

The premium plan is a profit-sharing plan, under which the employer and the employee share in the gain from the increase in the output. The employer is justified in obtaining some of this gain, because the machines are used harder, and more power and supplies are employed. By dividing the profits, there is less incentive on the part of the employer to reduce the standard time in order to reduce the earnings of the workmen.

The most obvious advantage of the premium plan over the straight piece-work plan is that it permits of different hourly-rates for different men, and hence has more flexibility. When hourly-rates must be changed on account of changes in the labor market, the adjustments necessitated thereby are easily made, as the standard time remains the same and only the hourly-rates of the men are changed. The greatest disadvantage of the premium plan is that it involves more accounting work, necessitates careful time study, and involves the keeping of many records.

The Task and Bonus Plan of Wage Payment

In the task and bonus plan the standard time is determined the same as in the premium plan, but instead of paying a premium-rate for the time saved, a bonus (from 25 to 50 per cent of the total wage paid for the standard time) is allowed the operator, if he completes his task in standard time or less. For example, suppose the standard time is six hours and the hourly-rate 40 cents. If the workman completes the work in five hours he will be paid for the full standard time, $6 \times 0.40 = \$2.40$, and in addition, a bonus of 25 per cent of this, or 60 cents. A guaranteed day-rate is always used in connection with this plan.

The Standard Time-rate Plan of Wage Payment

After having studied and used all the preceding methods of wage payment, and taken into consideration

the advantages and disadvantages of each, the Westinghouse Electric & Manufacturing Company has decided to try, in some departments, a plan which differs somewhat from those ordinarily employed in other machine manufacturing plants. This new plan involves the following three principles.

1. Careful time studies to establish a standard time, which is the time in which an average man, under average conditions, can perform the work.

2. A day-rate, which is a fair amount for the class of work under consideration in the locality in question. This should be equal to the day-rate that would be paid for similar work if no other system of wage payment were used.

3. The application of a standard time-rate, which is a definite percentage higher than the day-rate.

In practice, this system works as follows: if the work is performed in standard time or less, the employee is paid the standard time-rate multiplied by the number of hours of standard time allowed for the job. If he does not perform the work in standard time, he is paid his day-rate multiplied by the number of hours required for the job. As an example, suppose that the standard time is six hours and the day-rate is 40 cents per hour. The standard time-rate may be taken as 10 per cent higher than the day rate, or 44 cents per hour. If the work is performed in five hours, the employee will be paid 6 x 0.44 = $2.64, or 53 cents an hour. If it is performed in six hours, he will still be paid $2.64, or 44 cents an hour; but if it is performed in seven hours he will be paid only his day-rate, or 40 cents an hour.

When this system is employed, it is important that records be kept of every case where a man is unable to perform the work in standard time, and that special records be made out by the time clerk and sent to the time-study man for investigation. After the investigation, the time-study man reports to the superintendent the reason why the operator failed to perform the work in standard time.

When this system is analyzed, it will be found that, if the employee is able to perform the work in standard time or less, he works on a straight piece-rate basis; but if he requires more than standard time for the performance of the job, then he works on a straight day-rate basis.

The principles upon which this scheme is founded are thought to be fundamentally correct. The two most important of these are high day-rate and a low incentive. All new employees have to begin on the day-work basis while learning the job. If the day-work rate is low, then one cannot expect to get the right type of man to undertake the job. A special instruction-period day-rate, higher than the regular day-rate, is only a makeshift, for when the employee becomes proficient, it does not seem fair to him that his day-work-rate should be decreased. A high day-rate is also needed on special short jobs, repair jobs, and instruction work, where a standard time cannot be easily established. Again, if a comparatively high incentive is allowed—perhaps from 30 to 50 per cent above the high day-rate—as soon as the worker becomes familiar with the work, his earnings are out of all proportion to the value of his services. He realizes this and tends to curb his production, so that his earnings may seen reasonable. When a lower incentive is adopted, care must be taken that the employee is aided in every possible way to work efficiently. This means that all retarding influences must be discovered and removed.

The system is only the tool. Its success or failure depends principally upon its being properly handled and supervised.

PAYMENT BY RESULTS[1]

How Three British Plans Work

Systems of "payment by results" cover a wide field, and apply to many trades; but I will confine my remarks to those systems applied to mechanical engineering.

[1] By H. A. Dudgeon, Works Manager, The Coventry Chain Company, Ltd. Factory. August 15, 1920. p. 535-6.

The principal systems and those best known are:

1. Piece-work.
2. Premium Bonus—Halsey's, Rowan's, and others.
3. Bonus on output.

All of these, properly applied, offer inducements to the employee to increase his earnings in return for an increase in output. We have all three systems in use in the works which I control.

It should be stated at the outset that no plan can be effectively applied, or full benefit obtained, unless the organization of the works is such as to insure that the plant is in good condition, that there are good and liberal supplies of small tools, good supplies of raw material, and a proper department for fixing operations and prices, whether these prices are for piece-work, premium bonus, or some other payment

The scheme most favored by employees and their unions is undoubtedly piece-work pure and simple, and it has much to commend it. The troubles in the past with it have been largely due to employers reducing prices when the employees have earned over a certain sum of money per week, this in its turn leading to employees restricting their output, so as to produce a certain sum per week, and no more.

The main objection to the piece-work plan in the past has been that, whereas an employer could perhaps well afford to pay the prices when originally fixed, competition, or other circumstances which occur sooner or later, compel a reduction in cost. The easy course, then, appears to be a reduction in the piece-work price, ignoring the fact, either wilfully or through insufficient data, that the wages item is often a small proportion of the selling price of an article and altogether losing sight of the fact that even a workingman, although he may be a trade unionist, is a reasonable human being, and is willing to listen to reason and allow an adjustment in price,

if it can be shown to him that the only way of profitably retaining the trade is by a reduction in the piece-work price. This assumes of course, that he is not asked to work for less than a reasonable percentage over his hourly-rate. In the piece-work plan, the employee feels that he is getting the whole of the benefit of increased production which is due to his own efforts, and he does not see why he should share this saving with his employer, a state of things which he thinks to exist when working under the premium bonus system.

With the premium bonus plan, it is agreed that the time saved when doing a given task shall be divided in certain portions between the employer and employee. It is the taking of the portion by the employer which the employee objects to, as he feels that any saving is due to his own effort and not to any effort on the part of his employer. The employee, however, apparently loses sight of the fact that in many shops an additional amount of time has been added to the job in the first place in order to provide some or all of the portion which goes to the employer. That this is the case, can be shown clearly in the following manner.

It should be fairly obvious that before a piece-price can be fixed, or a time allowance can be made, some calculation must be made of the actual time necessary to produce an article, and up to this stage there is no difference between whatever system of payment is adopted, whether piece-work, premium bonus, or any other.

Now assume that an hour has been found as a time necessary actually to do the work, and the hourly-wage of the employee is 36 cents (using the American equivalent of the British amount). For piece-work or premium bonus it is assumed the employee should be able to earn time and one-third. Therefore the piece-work price is fixed at 48 cents each.

Should the employee be working on the premium bonus system, in which the time saved is divided equally

between the employer and the employee, then the time allowed is fixed at one hour and 40 minutes, and as the task can be done in one hour, the employee is paid for 20 minutes' work in addition to his hour's work (which is time and one-third and equals 48 cents), and the employer retains the sum of money equal to the value of the other 20 minutes, or $1.44. That the employer actually receives any portion of the money which should have gone to the employee, is a fallacy, as can be seen from the fact that the employer received back only what he had originally put on the job, and he does not rob his employee of anything.

A different state of affairs arises, however, if the task is done in less time than an hour, and we will assume as an extreme case that it is done in 30 minutes, or two articles per hour. As a piece-work job the employee will receive 96 cents for the hour's work, and the cost each will be 48 cents as before, but as a premium bonus job he will receive 78 cents. It is quite obvious that if it were possible to do the job in 30 minutes, there must have been something wrong with the time calculation for the job in the first instance, and as a piece-work job the employer feels justified in cutting the price, which, of course, was often done. As a premium bonus job, the cost has been reduced from 48 cents to 39 cents each; therefore the employer feels that, as the costs are going down, he is not so particular about altering the times, he also having in mind that although the costs have gone to a certain extent down, his employees' earnings per hour have increased from 48 cents to 78 cents.

Many schemes of bonus on output, both collective and individual, are in operation, and when properly applied often materially reduce the cost of work performed, and increase the earnings of the employees. Many of these schemes, in my opinion, do not achieve all the results they might, because of the fact that the reward or bonus

is not paid until sometime long after the work has been done.

A good scheme, therefore, should be one in which the bonus earned is paid as soon as possible after the work has been done. Further, where possible, the bonus should be paid on an employee's own efforts, or in the case of a foreman, or section foreman, on the production of those employees who are working under his direct control.

By paying a foreman on the output of his own section, payment can be made earlier for work done than if the bonus is paid on the completed article, for it can readily be seen that a patternmaker making patterns for a large marine engine would lose a certain amount of interest in the work if he knew that he was going to have to wait for his bonus until the engine was built and tested. He should, therefore, be paid the bonus as soon as the patterns are accepted.

Our works are divided into a number of sections, and the output and bonus is calculated each month for each section. Bonus to the foremen is then paid each week on the figures obtained for the previous month's work. That is, the bonus is paid each week in June on the output for May, and so on. Briefly, the scheme not only takes into account the output of the sections, but also the cost of any non-productive labor in that section, as follows.

The output is all paid as piece-work, and therefore the total prices paid are the measure of the quantity of the output over a given period. If this sum is divided by the number of productive-employee-hours—number of productive employees multiplied by the number of hours they have worked—a figure is obtained which is the value of output per productive employee-hour, and this figure becomes one factor in the bonus scheme.

A second factor is the ratio of productive labor to

non-productive labor in that section, which is obtained by dividing the total piece-work earnings, as figured above, by the total non-productive earnings for the same period.

The two factors multiplied together can represent any sum of money decided upon as bonus for a foreman at the commencement of the scheme; then as the factors vary in any subsequent month, the bonus varies accordingly. From this it will be readily seen that it is to the foreman's interest to: (1) Increase the output per employee-hour, (2) increase the ratio of productive labor to non-productive labor.

Since this bonus scheme was adopted, some two years ago, our records show that output per employee-hour has increased considerably over our pre-war output.

We also have a bonus scheme for handling steel in the stores, under which it was decided to pay a certain sum per ton for all material handled by the men engaged, this to be divided equally among them, except that the foreman was to have twice as much as any one of his men. It was decided that should more men be engaged, or the number of men be reduced, we would still pay the same bonus per ton. The result was that within one month of the starting of the scheme, 52 per cent more material was being handled by the same men. Each of the men was earning more, but the cost per ton to the firm, although the bonus scheme was an additional expense at first, was reduced 32 per cent.

A point to note in a bonus scheme of this kind, is not to pay a bonus of so much per man per ton. If you do, while it is possible the total bonus may decrease, the tendency would be for it to increase.

By the method we adopted, the bonus per ton remained constant, but there is a big inducement to increase the output per employee.

So far, my experience of bonus schemes has been quite satisfactory, not looked at only from an employers' point of view, but from the employees' also. Each scheme, however, has to be specially considered and adapted to conditions in each works.

A PROCEDURE FOR A MINIMUM WAGE GUARANTEED PLAN [1]

Primarily, the minimum wage guarantee plan is installed in order to reduce the number leaving employment.

When earnings fall below the minimum guarantee it is often for reasons for which the company is to blame, such as, faulty instruction; delays in giving out work; poor quality of condition of goods being worked; favoritism in giving out work; poor foremanship, etc. It might be considered that if any employee does not earn the minimum guarantee, it is the fault of the management and it should suffer, not the worker.

Furthermore, during the first weeks after an employee is placed on a piece-rate or merit system of pay, he is apt to fall down one or two weeks on his production. If he does not get a fair wage at such a time, he is very apt to get discouraged and leave. By paying a minimum guarantee at such a time, the chance of discouragement is minimized.

It is desirable, also that this plan automatically check each foreman on his success in training and handling employees and getting them to earn a reasonably satisfactory wage. Hence it emphasizes to the foreman his responsibility in keeping his work force up to its work.

Procedure

1. Grade the various kinds of piece-work operations according to value, after considering such factors as skill required, time necessary for learning, danger and all

[1] Lesson material from War Emergency Course on Employment Management. University of Rochester. 1918.

other factors as far as possible and group the operations having about the same values.

2. Determine for each class of workers a reasonable minimum wage. This would, of course, be somewhat below the average actual earnings and somewhat below what would be considered the theoretically correct average wage or normal wage for the class. In justice, the theoretically correct average wage (which is set for each department in relation to every other department, all factors considered) should determine the minimum wage rather than the average actual earnings which obviously might be high for one department as against the other.

3. Now if a piece-worker earns, on full time in any week, less than the minimum guaranteed, the amount of the guarantee is paid and the foreman notified promptly that his department has been charged the difference. These records provide a weekly, monthly and annual record of the efficiency of each foreman in handling his men.

4. The records of minimum guarantees paid should be reviewed periodically by the Employment Manager, the Superintendent of Production, and the General Manager.

CHAPTER III

PIECE-WORK

The Principles That Underlie Piece-work [1]

The one fact underlying the philosophy of labor management is that it is not the workmen who are chiefly at fault for the inconsistency and inefficiency of most payroll disbursements, but the system generally used in handling the workmen. Under the system that oftenest exists we cannot expect the workman to be much different from what he is. If we were in his place, we should probably do as he does. We should want to make the best living we could for our families, and if by working honestly and conscientiously we could not make any more money, and if we had tried it over and over again, and still could not get any more, even though we did twice or three times as much as the poorer worker beside us, we should do the same thing the average worker now does; namely, come to the conclusion that the system under which we were working had no provision for compensating the individual according to his deserts, and that the only way we could get more money for our services was to get the wage-rate of our class raised, and take steps to this end.

* * *

In the term piece-work we include all the various schemes for compensating men for what they do, instead of for the amount of time they work. It may be divided into two general classes.

[1] From Work, Wages, and Profits, by H. L. Gantt. p. 77-87. Reprinted by courtesy of the Engineering Magazine Company, New York.

The first is that in which a price for a job is set from previous records or from the estimate of a foreman, who generally considers his duty done when he has set the price.

This method is the one in general use and until recently it has been almost exclusively employed. In recent years, however, it has been very generally modified in order to avoid the troubles that have so frequently followed such piece-work in the past. The following reasons seem to be amply sufficient to account for the labor troubles that have been caused by this kind of piece-work.

Records of what has been done are only a very poor indication of what can be done by a capable and industrious workman, and still may be far beyond the possibilities of an ordinary workman who has not had special training in the work.

Estimates of a busy foreman as to how long it should take to do a new job must necessarily be inaccurate, and rates set by his estimates are practically guesses. After the workmen have become skilled, their earnings will increase greatly and will often be out of all proportion to the exertion put forth.

Under these conditions an adjustment of the prices based on the new records is made; and, as the workman become more skillful, it is done again. Thus the more skilled the workman becomes, and the more progress he makes the greater the penalty he has to suffer, for his prices are being continually reduced so that he earns but little more than the incompetent man, who has never been able to do his work in such a manner as to exceed greatly the old records.

The effect of this method of penalizing the good workman in proportion to his increased effort is to discourage him so that he learns ultimately to limit his output by that of the poor workman. This result is so natural that we should not be surprised at it, nor should we condemn it, unless we make it to the interest of the workman to do otherwise. His desire for more money continues, however, and when he finds his piece-rate reduced whenever he earns much more than the average workman, he comes to the conclusion that as his employer seems determined to keep him in his class so far as compensation is concerned, he will see what he can do to better the financial condition of the class.

The fact that he has had to suffer a penalty for trying to advance himself by legitimate methods, however, has caused him to feel that might is more powerful in the world than right. No better way could possibly be taken to teach him the value of force in accomplishing his ends.

* * *

This brings us to the second system of piece-work, which when properly operated provides a complete system of instruction for the workman, equitable compensation for his efforts, and opportunity for advancement on his own merits, and not through "pull" or friendship. So far this system has never failed to create a strong spirit of harmony and cooperation.

The essentials of this system are:

1. To have the best expert available investigate in detail every piece of work, and find out the best method and the shortest time for doing it with the appliances to be had.

2. To develop a standard method for doing the work, and to set a maximum time which a good workman should need to accomplish it.

3. To find capable workmen, who can do the work in the time and manner set, or to teach an ordinary workman to do it.

4. Whenever the high efficiency is obtained, to compensate liberally not only the workman actually doing the work, but also those who supply him with materials and appliances to enable him to maintain the efficiency specified.

5. To find among the workmen who have learned the best ways of doing work, some that can investigate and

teach, and thus gradually to get recruits for the corps of experts, so that the system may be self-perpetuating.

6. The ordinary foreman of the shop must not be called upon to do the work of the expert. His business under the usual conditions of management is that of an executive, and he is invariably so busy attending to his routine duties that he has but little time to make investigations into the best methods of doing work. He can only give instructions according to the experience he has had in the past, or according to the knowledge he may pick up at odd times. Again, he frequently feels compelled to allow work to be done inefficiently because he has no man that can do it better, and no time to train a new man. For these reasons it is desirable that the development of methods, improved methods, and the training of workmen to perform these tasks, should be in the hands of some one other than the foreman.

For this purpose the best expert mechanic available should be selected. Such a man may not have qualities at all fitting him to be a foreman—in fact, the best expert usually makes but a poor foreman. He is generally so absorbed in the mechanical operations themselves that the improvement of them becomes a passion with him, and nothing pleases him more than to see a number of machines operating at their highest efficiency, the result of his work. On the other hand, the foreman with this kind of a mind often sacrifices other sources of efficiency for this object. The expert must be a good mechanic with fair education. He must have industry, originality, persistence, and an ability to remove obstacles, not once, but repeatedly.

Such an expert in a shop will study the machines individually and teach workmen to bring each up to its highest efficiency

While the policy advocated in the above paragraphs cannot be called a system of management, the elements described must be parts of any good system. Each individual problem of manufacture must be studied in such

a manner as to determine how the work can be done in the most efficient way.

There is no use in attempting to increase efficiency, however, unless it is done in a systematic manner. Managers will often tell you that you cannot put into their shops methods of this character, and, under the conditions that exist, they are right. In many places you cannot at once better the evident inefficiencies that exist, for the machinery is often so arranged that it is extremely difficult to do anything different from what is already being done.

Most plants have grown from small beginnings, and have been added to without any definite plan, or any real idea of the system to be used in operating them. In many cases the character of the work has changed, and a plant well adapted for one class of work may be so arranged as to make it impossible to do another class of work efficiently. Then there are plants in which the machinery has been arranged without considering the subject of efficient management. In most plants, at least one of the above conditions exists to such an extent that much of the machinery must be rearranged to make any great improvement.

Then there are some people who have no idea of doing anything in a systematic manner. They cannot do anything twice the same way. They may be very good people, with an artistic temperament, perhaps, or they may be chronic inventors. They like to change things. If you have a man like that at the head, and succeed once in getting the plant organized for efficient work, he will want to change things again to-morrow. Such a man is not a manufacturer, and will make a much greater success at something else. To attempt to make permanent improvement under such a system of management, is futile.

On the other hand, if the man at the head is systematic, and while capable of recognizing an improvement, is slow at making changes unless he can see distinct

benefit from them, the conditions for instituting such reforms as well as permanently adding to the efficiency of the plant are ideal.

When we have once established our system of management by which the work is done economically, and the workmen get higher pay, they themselves offer the strongest opposition to change, for they will stand by a good system under which they are benefited quite as staunchly as they did by the forty-year-old method it replaced, the only virtue of which, perhaps, was its age.

Before beginning to introduce the methods described we must study the conditions under which the work is to be done. The machinery must be so arranged that the work can be done economically, and provision must be made to have the proper materials and appliances always available for the workmen. This is a question of management and may have quite as much effect on the proper operation of a plant as anything the workmen can do.

PIECE-WORK AN EFFECTIVE METHOD[1]

Piece-work, is based on the sound economical principle that workers should be paid according to the value of their work. There is and can be no valid objection to the principle as such, but in practice it is less satisfactory. The invincible dislike of piece-work often shown by workers is not without justification. They complain that when a man increases his output by working harder, the employer cuts down the price and reaps the benefit; and it cannot be denied that this has often been done. Such conduct strikes a fatal blow at efficiency; it falsifies the whole principle of piece-work, destroys the capable worker's incentive and takes the heart out of him. Sometimes a trade union fixes a maximum day's work in order to avoid inviting a cut, and it is quite justified in

[1] From Arthur Shadwell's Industrial Efficiency. p. 300-4. Longmans Green & Company. New York. 1913. Reprinted by permission of the publishers.

doing so. One remedy is a standard price-list fixed by mutual arrangement and only modified by mutual consent. This generally presupposes organization, and the difficulty or impossibility of securing it without, is a very strong economic argument for trade unions. A second ground for objecting to piece-work is that, even with a fixed price-list, bad material or machinery may render it illusory in practice. Other grounds are less justifiable. One is sheer laziness. The shirker, who habitually does as little as possible, is at a disadvantage when earnings depend on work done. He prefers timework, which he can reduce to time waste, as far as supervision will allow him. The building trades offer the most conspicuous example of this kind of inefficiency, and it is noteworthy that labor disputes are far more frequent in them than in any other branch of industry. A theoretical objection to piece-work derived from vague socialistic notions of equality, looks better, but is really based on the same motive. It professes the aim of preventing competition and jealousy between workmen but this is the same thing as depriving the more capable and industrious of their qualities and bringing all down to the level of the least capable or industrious. That is not only false economy, but tyranny and injustice. It is idle to put forward such objections to piece-work in the face of its satisfactory working in innumerable flourishing trades.

The industrial value of the piece-work method of payment is, I think, clearly shown by the fact that it obtains in those branches of industry in which England retains her superiority, whereas time-work is more common in those wherein she has been caught up and surpassed. Two prominent instances will suffice to illustrate the point, and they are the two greatest of industries—cotton and engineering. I do no suggest that labour efficiency is the only factor, but no one can deny that it is one of the most important; and I do suggest that where the wage incentive has been of such a character as to stimulate the workers to do their best, there the lead which

England gained long ago has been maintained, not unimpaired, but still maintained; whereas, under the ordinary time-work system, which does not provide that incentive, but discourages effort, the once still greater lead has been entirely lost.

The inference is strengthened by the results of intensive piece-work wherein the stimulus of ordinary piece-work is increased by additional rewards. It takes different forms, but generally consists in paying each worker a higher price for each piece or job in proportion to the rapidity and quality of his workmanship. This automatically adjusts the incentive to the individual who has before him the choice of earning more or less according to capacity and industry. It is undoubtedly a most effective method of payment; it encourages workers to do their best, remunerates them directly for extra effort, pays the employer and benefits the whole concern on which both depend. The employer is able to pay higher wages for quicker work, because he gets a larger output for the same machine cost. He divides with the worker the advantage accruing from the difference.

Piece-work is not applicable to all trades; that is to say, it is not convenient to calculate wages on that basis, though of course in all cases the thing paid for is the result not the time spent on it, and in time-wages some estimate of the piece value of time is implied if not consciously realized. When machinery is running the ratio between time and result is generally regular enough to permit of its being reduced to a formula by a careful analysis of the operations. If this be done each can be expressed in terms of the other, and then the intensive or differential rate can be applied to time-work just as well as to piece-work. The two are interchangeable. In the Oldham spinning mills the output is calculated from the time and the differential rate is assessed by extra speed, so that actually time-wages are paid for piece-work. It is possible to reverse the process and pay piece-

wages for time-work, This is, in effect, what is done under the premium or premium bonus plan, which is now largely adopted in engineering and machinery works. The men are normally paid so much by the day or week, that is to say, they are on time-work, and in England, at least, they have a standard week's wage. This implies a certain output. All that has to be done to apply the intensive principles is to fix the relation between time and output more precisely and to offer additional pay for curtailment of the standard time required for a given result. The principle is exactly the same whether the measure be the piece or the time; in the one case the premium is paid for more output in a given time, in the other for less time expended on a given piece. The difference lies merely in the method of calculation, which depends on the nature of the work.

DEFECTS IN THE PIECE-RATE METHOD OF WAGE PAYMENT[1]

By piece-rates the unit of adjustment as between employer and employee is not so much time spent at labor, but so much work completed. The unit task may be of the most diverse kind in different occupations—a ton of coal mined, a locomotive mile run, a yard of cloth woven, a casting made, a certain area of type set, a face shaved or a head of hair cut. The fundamental idea of day-pay is that of mathematical equivalence between money and time; the fundamental idea of piece-work is that of mathematical equivalence between money and jobs.

If, for example, I am working as a journeyman hatmaker at day-wages, I tacitly accept the truth of the proposition that ten hours of my time are worth, say, $2.

[1] From Principles of Industrial Engineering by Charles B. Going. McGraw-Hill Book Company. New York. p. 120-5. Reprinted by permission of the publishers.

That is, I agree with my employer upon the truth of this equation:

(A) 10 hours time = $2.00

I come into the shop at seven, go home at six, with an hour for lunch. I loaf as much as I dare; the boss watches me and drives me as much as he can, and perhaps in the average I make about one hat a day. Now suppose I go on to piece-work. I set in the background the proposition "ten hours equals $2," and base my creed upon the tenet that "making one hat equals $2." In other words, my employer and I fix our eyes on a new equation:

(B) Making one hat = $2.00

The longer I dawdle, the longer it takes me to get that $2. On the other hand, if I work fast I can perhaps get through by mid-afternoon or even earlier and go fishing. Or if I choose to stay I can begin on another hat. Very possibly by diligence and study I can improve the tools or the operations a little, or I may carry on the making of two hats at once, working on each during necessary pauses for the maturing of processes on the other; and I may soon be turning out three hats in two days or even two hats in one day. The boss will be paying me 50 per cent to 100 per cent more wages in a given time than he did formerly. Yet his hats, are costing him no more. Indeed, they are costing him less, for his general expenses for shop rent, light, heat, superintendence (that "overhead burden" of which we have already spoken) are no greater than they were before, and yet he is turning out more hats to absorb these charges. A smaller fraction of this cost, therefore, attaches to each hat.

Now I said that in going on to piece-rates the boss and I both set in the background the proposition that ten hours equal $2. I used those particular words advisedly, because that idea at best is only retired. It is not dismissed. It lurks in the background of our minds

persistently. The price of $2 per hat was fixed as a piece-rate not because we really believed it was worth $2 to make a hat, but because on the average that paid me $2 for a day's time. In other words, we accepted formula (B) not because we believed in its abstract truth, but because we believe this:

(C) Making one hat = 10 hours time

As soon as (C) proves untrue, (B) no longer follows from (A) and my employer at least loses faith in it. When I begin to get $3 a day the boss begins to get uneasy, and when I make $4 a day he is probably certain that something is wrong. He believes no journeyman's time is worth $4 a day. The fact that he is turning out larger product from his shop in the same time at less cost does not impress him as it should while the $4 a day to a "$2 man" looks enormous. He begins to believe that he is paying too much for the making of a hat. Probably he decides that if two hats can be made in one day, the making of a hat is not worth more than $1, and he cuts my piece-rate in half. I have to work twice as hard as I did before and get no more for it. On the other side, my fellow workmen are displeased. They are contented with the old order and want to work along turning out about one hat a day and getting $2 for the day's time. They say "if you show the boss that two hats can be made in a day, he will want to drive us up to your pitch or get rid of us. You are killing the job." So these two influences combine to discourage me against the great and apparently fortunate incentive which first led me to rejoice in the piece-rate and to see so much apparent advantage in it.

Piece-rate payment is an old idea. We find it far back in the history of the guilds, and no doubt it existed centuries before that. Within comparatively recent times, however, it has been brought into new prominence through the earnest efforts of men who saw in it a great light to lighten the way out of the darkness of day-wages.

It offered an incentive to the worker, a reward proportioned to his skill and industry, an enlarged output induced by this financially stimulated activity, and the very essential result of increased volume of manufacture with decreased cost of product from the same plant investment. Results—important results—have been secured; but yet they have frequently been disappointingly below expectations, chiefly for the reasons suggested in my little parable of the hat-maker.

The great inherent trouble is the difficulty (under ordinary or non-scientific management) of fixing piece-prices which are fair and which continue to be fair. The reserve capacity which a workman may be holding back, consciously or unconsciously, in an operation that has not been scientifically studied and standardized, is almost unforetellable. When it is realized under the incentive of piece-payment, and his earnings rise enormously, the disposition of the wage-payer to rebel against the outlay and to cut down the piece-price is almost irresistible. If the employer sees that a workman can do several times as much as he was doing under day-wages, you can hardly blame him for feeling that he has been defrauded all along under the old system, and for trying to make things more even from his point of view. But the price-cutting that has so very, very often followed soon after unscientific price-setting has worked immense mischief, by raising in the minds of the men suspicion and distrust of systems introduced to replace the old day-wage plan. Union opposition has been strong against piece-rates, and while it has been modified in many places so as to admit piece-work, this acceptance has often been accompanied by counter-restrictions which nullify most of the possible advantage—as, for example, the fixation of a very moderate number of pieces as the maximum that any man may make in a day, thereby coming back substantially to day-wages.

The trouble here, however, is not so much one of

principle as one of administration; but there is a fault of principle inherent in piece-rates, and that is that they put all the uncertainties of production on the workmen. Suppose a man is machining steel castings at so much per piece. He may have delivered to him a lot of hard metal parts that take four or five times the expected time to finish. For that period, at least, he cannot make living wages. Suppose a gang is unloading coal cars at so much per ton, and the switching crew is tardy in moving away empties and setting in loaded cars, and so keeps them idle for considerable periods, or suppose that in setting in the new cars it places them badly so that the men have an extra long throw and work at a disadvantage. Again, the workmen may be unable to make fair wages, through no fault of their own. Suppose, once more, a working gang is made up by the foreman so that green men are mixed with skilled, and these green men by their awkwardness cut down the output of the whole gang. Here, again, if they are working at piece-rates, their earnings are reduced without their fault.

In all such cases, unless there is special intervention by someone in authority to make up the loss, it falls upon the piece-rate worker. Under day pay, of course, it would be the employer who would suffer in such cases; but the employer is in the first place better able to stand the loss. The unprofitable item of work is probably only one of many he has in hand, while to the workman it is the worker's entire interest; and last, and most important, the whole power to remove the conditions that caused the loss rested with the employer and not with the workman.

Notwithstanding these certain defects of principle and administration, however, piece-rates are a good deal used. Where the rates are carefully and fairly set, by fair and frank effort on the part of both employer and employee to make them right, and where they are fairly maintained after they have been set, they are often (almost usually)

preferred by the men; for they make the man more the master of his own time, and they enable the capable workman to increase his earnings in correspondence with his ability and capacity. Where the men will work fairly under the piece-rates they are liked by employers also because the system stimulates larger production from the same plant without materially increasing the indirect operating expenses. These are the advantages of the piece-rate system—increased output and increased earnings. Its disadvantages are that when difficulties interfere with output the men's loss is not made up to them without special action by the employer; and, worst of all, that when the employees' earnings are very much increased the employer can seldom resist the temptation to cut the rate. Knowing this, the men are frequently suspicious and seldom let themselves out to anything like their real capacity.

The "contract plan" of employing and paying labor is used to some extent, especially in heavy machine-shops, that is, locomotive and shipbuilding plants, in the United States and Great Britain. It is not, however, a separate and distinct system, but is substantially a gang piece-rate. An over-all price for a job is agreed upon with the contractor, who uses the equipment and facilities of the employing shop, but hires his own workers and assistants on terms arranged between him and them. As discipline and responsibility thus fall chiefly on the contractor, while the tools, facilities and general environment are largely supplied by the shop, the plan leads to a somewhat demoralizing divorce of authority and liability. It is likely to lead, and in practice it does lead, to very bad industrial conditions. Nevertheless it has been in use for a long time, and remains in use, and hence must be considered a practical and to an extent commercially successful method, although the success is not determined by very high standards.

WHY PIECE-WORK IS NOT SATISFACTORY [1]

The real objection to piece-work cannot be fairly laid at the door of the workman, but rather to the outrageous conduct of short-sighted proprietors, who have constantly cut the piece-work prices, even when an agreement had been entered into that no cuts would be made, and this naturally engenders a feeling in the heart of the workman that he will not get fair treatment. Conditions often arise to make it absolutely necessary to reduce piece-work prices, and in such cases I have found workman perfectly willing to accept a change. They do so, however, always with the feeling that they could not hope for fair consideration if new conditions were to arise which would justify an upward change. It is always a downward change for the workman, so as a matter of precaution he keeps some force in reserve to use when it comes to a pinch. With this feeling it is evident that no peak production can be obtained and maintained.

OBJECTIONS TO THE PIECE-RATE METHOD OF WAGE PAYMENT [2]

1. Practical Objections

Workers generally hate piece-rates, and oppose them. Piece-rates therefore widen the existing breach and cause misunderstandings between employers and workers. They curtail output and prevent cost reductions.

Tool, machine, material, weather, temperature, humidity, light, volume, all very greatly influence output.

Because all these conditions may vary exceedingly from day to day, a piece-rate must be crude and soft,

[1] By W. D. Forbes. American Machinist. 52 : 612. March 18, 1920.
[2] By Harrington Emerson. Industrial Management. June, 1919. p. 471-2.

like an Indian's blanket, instead of being well adapted, like a baseball player's suit.

Piece-rates have to be very easy to go in at all.

2. Administrative Objections

Piece-rates lessen the responsibility of the management, who should bear it, together with control, and throw it on the worker where it does not belong, and, as a consequence he demands more control.

Piece-rates introduce an inflexible system of vested rights, a most dangerous condition to fasten on a modern plant. No rate whatever ought to have any permanence. No time schedule has. There may be 50 time schedules for the same operation and they may all automatically lapse overnight.

Labor costs are always only a part of total costs, often a wholly insignificant and subordinate one. Piece-rates magnify a detail to the detriment of the whole.

Every executive, from worker himself up, should understand the end, the aim, the ideal, and not sacrifice it to his petty function.

3. Psychological Objections

The words "piece-rate" are as a red rag to the worker. There is instinctive and latent hostility to them. However fair they might be, many injustices and abuses have occurred until they have come to be regarded as a device for increasing toil and reducing pay.

I know a very large American plant, with an international business, in which piece-rates were revised every year to the basis of the lowest current wage for the highest 10-hour record. As a consequence, a great horde of ignorant foreigners came to their piece-work between 4 a. m. and 5 a. m. in order to earn a living wage by 6 p. m.

When I go into a shop to gain the cooperative

confidence of the worker I do not want to begin by throwing at him a hated method of check and payment. He hates piece-rates because his income is uncertain but his expenses are definite, and any day, through conditions beyond his control, piece-rate earnings may drop to nothing.

But there is an even deeper psychology. We all feel interested in reducing time, but not in reeling off more pieces.

Thousands will go to see a horse lower the trotting record half a second, but nobody feels any interest to see him go ten yards further in a minute. We all felt interest in the reduction of transatlantic steamer records but not in the more useful feat of a long voyage without coaling.

If a time standard is set up men will instinctively try to beat it. If a piece-standard is set up they will stand pat. Ask a man to walk as many miles as he can in eight hours and he will get ideas of beating the professional record. Give him a standard of twenty miles and he may attain it in five or in ten hours, but he will stop when he has done the stunt. Therefore a time schedule is generally very effective in reducing cost and increasing pay and output.

Under "Practical Objections" I have already referred to the undesirability of throwing the responsibility for output on the worker, as piece-rates do, instead of on the foremen and superintendents as time-schedules do.

A machinist in a Santa Fé shop could not make his time-schedule (the casting was unusually and abnormally hard). This immediately resulted in dragging in the worker, the foreman, the superintendent, the man who had made the schedule, the shop accountant, the purchasing agent, the vice president. The immediate results were:

1. A reduction in cost of the specific operation from $23 to $3.

2. A saving as to this one job of 20 days of locomotive time at $50 a day or $1,000.

3. An improvement in all castings for all purposes.

Common Use of Time Schedules

All railroads have time schedules, not piece-schedules, for operating their locomotives. The management must maintain the way and track as well as the locomotive so that the locomotive can make its time.

It was familiarity with railroad operation time schedules that led us to evolve the same method for shop and other operations. It is noteworthy that railroads have never had any serious difficulty in changing and bettering their time schedules, but they have always had immense difficulties with their piece-rate schedules, whether applied to freight or to employees or to shop work.

For eleven years after we had supervised the installation of time schedules for twelve thousand men in twenty different trades, men scattered through twelve states and of fifty-six different nationalities, including Indians, Mexicans, Chinese and Japanese, there was not a breath of trouble, because time schedules are flexible. All around us on other railroads there were piece-rate troubles.

A True Story, Illustrating the Psychology of Piece-Rates Versus Time Schedules

A skilled machinist at one big locomotive shop was shaping frames on a piece-rate of $12. At another shop the same operation was performed on time schedule for $6. This being brought to the attention of the superintendent, he suggested to the worker that the $12 rate ought to be trimmed. The machinist's reply was that if an attempt was made to reduce the piece-rate the whole shop would strike.

As this was highly undesirable nothing was done for several months, but as the other shop continued, with entire satisfaction to all concerned, to turn out the frames at a cost of $6, the matter was finally placed in the hands of a time specialist.

The successive steps were:

To find out the average hourly earnings of the machinist on piece-rate for the previous six months.

To offer the machinist this average hourly earning as guaranteed hourly wages. (This was accepted by the machinist.)

To abolish the piece-rates. (This was also accepted.)

To install, with the superintendent's and foremen's help and cooperation standardized conditions as to tools, power, belting, crane service, etc.

To install, with machinist's assistance:

Standardized operations as to jigs, cutting speed, feeds, depths.

To set up a time schedule for the operation under the improved conditions.

As a consequence, the machinist who was going to bring on a general strike if his piece-rate of $12 was touched, cut the actual cost to $5.80, earned more, more easily, but more skillfully than ever before.

Other illustrations could be given by the hundreds.

Even the villainous piece-rates, the end result of many years of unjust oppression, which forced some workers to come at 4 a. m., could have been put on time schedules which would have reduced the hours, increased the pay, lessened the cost, increased the output.

The time schedule method consists:

1. In paying a regular rate per hour, agreed to between contracting parties.

2. In setting up a standard equivalent in output for the hour of work, and recording the time of every performance.

3. In making the management responsible for those standardized conditions and operations as will make the output normally and reasonably possible in the time set.

4. Recognizing the worker's right to all the time he saves below normal equivalent.

He can use it to rest or he can use it for work and be paid for it on the next job.

He has the same right to the time he has saved as those smarties had, who in plants working three shifts, worked under one name on one shift and under another name, in a different department, on another shift; with this difference, that we object even more to overtime than we do to piece-rates.

5. In not disturbing the guaranteed minimum hour-rate, but increase the rate as standard is approached, increase the rate very much as standard is passed.

A DEFENSE OF THE PIECE-RATE METHOD[1]

1. There are no practical, administrative or psychological objections to any piece-rate system in vogue that cannot be removed by a right-minded management. Where they exist at all the piece-rate system is not thoroughly understood and a house-cleaning is necessary.

2. The piece-rate method of wage payment:

(a) Is fairest to worker and management.
(b) Rewards the worker the most for superior ability.
(c) Is easiest to modify in a labor trouble emergency.
(d) Most certainly insures balanced production.
(e) Is scientific, unarbitrary and hence sound.

3. The time schedule method of wage payment is based on a novel idea for which too much is hoped. As

[1] By Leon Blog. Industrial Management. October, 1919. p. 327.

he has done with all other systems of production coaxers, the worker will soon detect this one if it be installed, and it will also become a red rag whether deservedly or not. Its bonus nature will bring on all the troubles incidental to bonus systems and a speedy return to a scientifically established piece-rate method of wage payment will be the remedy.

WASTE SAVING THROUGH PIECE-WORK[1]

In these days of increasing agitation for economical methods of manufacture, perhaps the element that receives the most universal attention is that of labor. This is not to say that there are not other elements of very large importance from the standpoint of possibilities of economy in every business, and indeed, in some plants, of greater economical significance than labor. But in the first place many of these other elements have received, and are receiving, in a progressive systematic manner, such attention as to bring not only constant improvement, but (which is really very much more to be desired in the plan of things) to open up still larger fields of returns for human effort. And in the second place the quick returns on intelligent action, the human interest involved, the increasing profit that lies in volume of production, the unlimited possibilities of increase of product per hour that every man seems capable of developing, and, perhaps not a little, the fact that in any plant more energies and brains become immediately interested and active when the element of labor is dealt with, make it of supreme interest.

And so we are developing the possibilities of this element through motion studies and scientific analysis, and coaxing it on through its human side by the incentives

[1] From Experiences in Efficiency by Benjamin A. Franklin. Engineering Magazine Company. 1915. p. 32-41. Reprinted by permission of the author and publishers.

of piece-work, premium plans, bonus methods, efficiency standards, etc., with economical results as to cost, and with a hope that in the long run, all this will lead to decreasing selling prices. But there are those who think that this latter could be radically effected much more quickly by a decrease in the tariff, the discovery of a plan of distribution more direct, or a law-compelled or heaven-sent abnegation on the part of capital of all unreasonable profits.

However, to return to labor, it must be acknowledged that very good economical results are being obtained by the various studies and methods employed, and that a new era of labor values is being developed. It cannot be denied that too often the incentive back of the introduction of these modern methods in labor handling is solely the narrow one of plant profit, and not the broader one of mutual benefit to labor and capital alike. Yet it is a fact of observation that when these methods of incentive have been introduced with a sense of fairness and appreciation of the full and continuous rights of labor, the net results to capital have been even greater than when the work was done in a narrow way, since such operation has aroused the most liberal spirit of friendly cooperation, which is most absolutely and essentially the true basis of all of these methods. And it is not to be doubted that through such a spirit of cooperation lies a development of this great problem that will lead to utopian results.

But in all this effort to increase the product per man-hour, quality must not be forgotten. In the matter of moving materials, of much rough work, and even of a good deal of work with precision and automatic tools, haste does not make waste nor affect the desired quality. But there are many operations and articles where judgment and care play a material part in the items of quality and waste, and the unquestionable tendency of haste is to deteriorate.

This latter is the statement that is met when methods of labor payment according to product are suggested to the manufacturer who is proud of the high grade of his product, and who guards, as the secret of his profits, against any tendency toward deterioration. And certainly no advance is made, either from a profit point of view when one element of cost is decreased at the later expense of the selling price, or from a broader materialistic point of view when a poorer article is made from good material which care would make into a better article.

One hears much complaint, whether with a true basis or not, that workmen are not so skilled, so careful, as they used to be; that articles are not put together so solidly and well as formerly. If this is true, as indeed it may be in cases, it is only fair to labor to say that it is probably more the fault of the design, the plan, the attempt to imitate cheaply some popular or high-priced article, or perhaps even more than these the different divisions and training of labor, brought about by modern methods, than the fault of labor itself. Nevertheless, some years of experience in many varied industries have left the conviction that quality is a matter of insistence, rather than of methods of either day- or piece-work. That is to say, that in that plant where a given standard of quality is insisted upon, the workmen will work on piece-work basis.

To obviate any danger of retrogression in quality and loss through waste by possible carelessness on the part of workmen hastening toward daily increase of production on account of the rewards offered by the piece-work or other plan, the writer, working as a business economist, devised and put successfully into operation in several plants a plan of piece-work in which the rate varies with the quality and per cent of waste, so that the daily pay of the operator depends not merely upon the quantity done per day, but very largely on the quality of the work.

There are many articles the manufacture of which, both as to quality and the waste of raw materials, can be gauged very accurately; in which no great scope of judgment is allowed; in which accurate measurement and prearranged jigs and tools play a guiding and correcting part. There is little chance for judgment or waste, except through punishable carelessness, in the work of machining to blue-print size a casting perhaps with jigs and fixtures. Here, and in many like cases, piece-work finds a safe economy.

But there are many operations in very many staple businesses where haste and carelessness may spoil much material, or where care and interest may save more in material than the total wages of the worker. In these cases the executive naturally hesitates to reward speed and volume of production, because of a fear that his loss in waste will be greater than his gain in labor cost.

In such cases the executive will find "quality piece-work" a valuable method.

A practical case will illustrate this method. In a large mill an important operation involved the pasting together of sheets of material. This operation developed a large tendency toward imperfections of various kinds, not only those arising from the spoiling of the material in pasting, but others due to further enlargement of defects during the drying and finishing operations—defects which careful pasting might avoid. The value of the material was such that its waste was a very considerable matter. Quality was the most important element to be considered.

Even on the day-work plan, it was the custom to sort over the material, so that the imperfect sheets were eliminated to be pasted separately. The pasting gang, therefore, started with presumably perfect stock, offering a fair basis for waste-gauging.

Starting with perfect material, there were two losses to guard against. The first was the turning of perfect sheets, through poor workmanship, into sheets, not imperfect enough for waste, but so defective as to bring a lower selling price. The second waste was that absolute one where only a scrap value remained. The scheme put into effect must take care of reward for speed, but a reward so proportioned that the most careful and skilled gang obtained a large return for good work, while poor work carried penalties in reduced rewards which forced out poor workmanship.

The detail of the method on this case was as follows. A standard ratio of imperfect pasted sheets to perfect pasted sheets was fixed, as well as a standard percentage of total waste. These standards were, of course, the result of records and experience.

The rate was based primarily on the percentage of imperfection. While the figures given below are not exact, the following table shows in a general way how the rates look:

$1.12	per	100	pastings	at	2½	per	cent	imperfect
1.10	"	"	"	"	3	"	"	"
1.08	"	"	"	"	3½	"	"	"
1.06	"	"	"	"	4	"	"	"
1.04	"	"	"	"	4½	"	"	"
1.00	"	"	"	"	5	"	"	"
.98	"	"	"	"	5½	"	"	"
.96	"	"	"	"	6	"	"	"
.94	"	"	"	"	6½	"	"	"
.92	"	"	"	"	7	"	"	"
.90	"	"	"	"	7½	"	"	"

In addition, the waste is set at 1 per cent, and a fixed bonus per 100 pounds arranged for every 1/10 per cent reduction, or a deduction for every 1/10 per cent increase in this amount for the week.

The results in saving to the company in imperfect and waste, and the weekly increase of production, have been very well worth while indeed, and the employees have benefited 25 per cent to 50 per cent in increase in wages; one operator indeed for some years having averaged nearly 100 per cent increase over the old rate. The judgment as to the quality of the sheets pasted lies in the

hands of people so far away from the pasters that there can be no question of its fairness to both the company and the workmen. The pasted sheets go through other operations and are sorted out as to quality when they are put up in final counted packages.

This example has been given in some detail in order to make clear by figures the method employed. The same method has proven applicable in many cases where judgment, carefulness, and attention could get more of an article out of a given quantity of raw material, with less waste, than the ordinary methods of supervision and labor pay will obtain, and it has been especially valuable in the case of leather.

Three elements in the operation of quality piece-work are:

1 To find operations in which waste is to be saved or quality bettered by care.

2. To find by observation and data what can be done per hour on the quantity basis.

3. To find what the average waste or standard quality is as a base for quality rate.

There have already been some important developments of this quality piece-work in several factories. It can be applied with careful study to any operation where waste is to be saved or quality bettered.

Important from the point of economy as a reduction of labor unit cost may be, the struggle for speed cannot last without a full accounting with quality, and the betterment of quality and saving of waste will take its place in the progress of the world as a good second with the betterment of morals and social practice, and indeed has an effective place in their progress. Perhaps the next step in the progress of increasing per hour production in manufacture by means of extra wage incentive will be the betterment of quality through quality piece-work.

GANG PIECE-WORK [1]

Piece-work, founded on the ancient business principle of barter and trade, of giving a stipulated price for a stipulated article, is an old institution, in principle and practice well known by both capital and labor. And while there rests in the minds of very many (whose interests would be much better served by knowledge) a considerable ignorance of the significance of differential rates, premium plans, etc., every manufacturer knows of straight piece-work, and most of them believe that their factories are operated to a very percentage on that method of payment.

Yet actual experience with a great many manufacturing plants shows that, if the payroll is consulted week after week, it will bear witness in the average plant to no such condition, but will usually prove that in the several departments, all labor considered, there is from 10 per cent to 75 per cent piece-work, none too often reading up to the higher mark.

It is true that manufacturers are beginning to be more susceptible to the call of increased labor-efficiency. The propagandists of scientific management are beginning to be listened to somewhat more respectfully, as the message of increased efficiency is a joyful one to the ear of the American business man, when he can be persuaded that it applies in some practical way to his particular case. And it may be believed that the agitation about the $1,000,000 a day loss by the railroads will do more than any recent occurrence to urge manufacturers farther along these lines, not only by calling the matter strongly to their attention, but also by that happy trick of our human natures that makes many of us hasten, sometimes

[1] From Experiences in Efficiency by Benjamin A. Franklin, Engineering Magazine Company. 1915. p. 32-41. Reprinted by permission of the author and publisher.

unconsciously, to correct or improve when the fault or opportunity is shown to exist in another.

But that manufacturer who desires to operate his labor on piece-work has still, on the average, a definite opportunity of obtaining a real increased efficiency in developing this method of payment to the highest degree by getting his whole factory working on this plan. It is not impossible in many factories to get almost 100 per cent of the total labor, even including the foremen in most departments, on piece-work. To accomplish this, however, it is not infrequently necessary to depart from that method of piece-work whereby a fixed rate for a given operation on a given article is paid to an individual, or what might be called "Individual piece-work."

A most effective method of departure lies in gang piece-work.

The term "gang piece-work" does not here signify that form of labor payment which is not now in as great practice as it once was, and which deserves a grave in the cemetery of discarded methods, viz., the method by which work is farmed out for a given sum, to a foreman or subcontractor working generally inside the plant, who in turn hires and pays his own labor according to his own ideas Such a method holds in it no real economy to the final consumer, but leads generally to tyranny, insubordination, poor work, and poorly paid (and therefore inefficient) help. It is, indeed, the father of the sweat-shop.

By gang piece-work here is meant something entirely different. It is a plan whereby the manufacturer still pays a stipulated price for a given amount of work to a gang—the foreman generally included—but the division of the pay is made by the manufacturer himself on a basis of fairness to all concerned, each individual sharing proportionally in any increase of gang pay earned, and the manufacturer retaining to himself prerogatives of hire, discipline and discharge. The plan is not new;

but it is not practised as freely as it should be, for it has distinct advantages.

Such a method is economically valuable, especially under that condition where the work in the final result is divisible into definite units performed by a gang, but in its progress passes through the hands of individuals in such a varying and changing method as to be practically indivisible into units for individual piece-work value. The gang becomes the contracting individual; the final result, the paid for operation.

Let us take a definite example to illustrate:

In an envelope factory there works a gang of eight men including the foreman. The duties of the individuals are somewhat widely divided. Two men are cellarmen. They unload paper from the cars and wagons, take up paper on order to the envelope machines, and bale the waste cuttings as they come down the chute from the envelope cutters. Four men, including the foreman who also plans and lays out the work, cut envelopes on machines. One man cuts envelopes of odd sizes by hand, and the eighth member of the gang is a boy who delivers the cut envelopes from the cutters to the envelope machines. The envelopes are of all possible sizes and quantities, and it is easy to imagine that there was amply basis in fact for the predictions that were made that it was impossible to put this work on piece-work successfully, without more labor in working out the rates on the more than one million cut daily than the saving would be, not to mention the difficulties of planning the work so that each man got an equal share. Gang piece-work, however, solved the situation in the simplest way.

A rate of 2 cents per thousand envelopes of any size for the whole gang of eight men was arrived at by careful record and observations, covering all kinds and sizes of envelopes, and the weekly amount earned is divided between the members of the gang on a fixed

percentage basis, the foreman getting the largest and the boy the smallest proportion. The payroll of this gang is arrived at in five minutes at the end of the week; for, take note, the gang is paid each week, not on what it cuts but on the number of thousand shipped out of the factory. This method has, first, the decided advantage that only good work is paid for, and the number is beyond the question of dispute.

In this case gang piece-work has worked most excellently to the advantage both of the factory and the men. Production has increased largely, and so has the pay of the men, despite the decrease in cost.

Gang piece-work developed here its natural tendency toward cooperation, always the great force toward results. While it would have been very difficult, if not impossible, to have made individual piece-work rates for the different operations and classes of work, it would have been much more difficult, on the individual piece-work plan, to have divided the work so as to have obtained satisfaction with each man. When all were in the same boat, however, they learned quickly to pull together.

Take another example—a plating room. Here the parts of varying sizes, weights, and shapes went now into this man's hands, now to another's. The work could not be divided into separate operations and be economically finished. The day-work plan was the only method by which it appeared possible to do this work. Individual piece-work, as any plating-room foreman will acknowledge, where the operations are many and varied, seems impossible. Gang piece-work, however, solved the problem. Piece-rates for the finished article were worked out, and the gang (including the foreman) were paid weekly on the product turned out by the room, the piece-rates varying as to the different articles and the total amount being divided between the operatives on a prearranged percentage basis, the foreman getting the largest percentage. The result was decided economy to the plant and increased wages for the operator.

Many more examples of the value of gang piece-work where individual piece-work is impossible might be given, but there is also to be obtained from gang piece-work frequently a value where individual piece-work is easily possible. Such cases arise where the policy of "each man for himself and the devil take the hindmost" (which, we must confess, individual piece-work has some tendency to foster) is a policy that leaves the company also with the rear guard.

Here the value of the cooperative force of gang piece-work becomes very apparent.

Let us again take an example.

A force of twenty-five to thirty men assemble small parts into a finished whole. There are a great many small parts, and some of these have to be assembled and passed on for adjustment with other parts likewise partly assembled. Despite careful planning, the weekly production constantly varied and an excess of small parts was constantly demanded on the individual piece-work plan. Each man was working for himself, hoarding parts whenever possible, frequently stealing them from his neighbor, passing on partly assembled parts poorly done, demanding constant inspection, adjustment of disputes, and not a little confusion.

Gang piece-work was installed and the situation immediately changed. Production rose to a fixed maximum. Inspection was unnecessary except to test the finished article. There was a decrease in parts disappearing. The necessity of cooperation for the general good, the broadening of the scope of the individual to look to the welfare of the whole instead of his own solely, had in this work (as it has in any other affairs of the world, political, religious, humanitarian) an extremely beneficial effect for all involved.

In fact, gang piece-work seems to be especially adapted for results where numbers of small parts are involved, when these parts have to pass through many operators' hands. This same plan was put into another department

of the same plant, where certain small parts went through a number of different kinds of operations necessitating that one operative should pass them to another. On the individual piece-work basis, there was considerable delay and much necessity for special rush to get certain needed parts out of this department, despite careful routing. Unforeseen delays and occurences, lack of interest on the part of each individual except in his own work, much loss of labor paid on work spoiled before it reached the last operation, beside a great deal of calculation necessary to make up the payroll, were discovered.

Gang piece-work miraculously stopped this. The gang, paid a single rate on good finished parts, quickly discovered ways of getting through a greater proportion of good finished parts and of reducing to a minimum the time of routing.

Cooperation—and it is a fact, comment upon it as you will, that the opportunity for gain will bring the most intelligent cooperation on the part of the average body of men when properly led—cooperation educates. It makes common to the gang the education and skill and energy of each man. It works toward greater efficiency of the whole.

To establish gang piece-work it is necessary, first—to find, as a basis for rate payment, some final result or results which a gang of men are engaged in accomplishing; second—to establish a definite method of division between them of the amount earned by the gang, this being based generally on the relative skill and position of the men involved.

While as before noted gang piece-work is not a new institution, it is one that in most plants has never been utilized to its most profitable extent. For it is useful both in attaining the highest percentage of piece-work efficiency and in introducing what most concerns stand badly in need of—cooperation. And if it be from the point of view of labor itself, since it demands equal wage

for all of a class and decries piece-work partly because of its discriminating effect, what could more justly meet its view and still satisfy the employer than gang piece-work?

From many ethical considerations, it is well for men to be bound together for a common cause when that cause is a fair one, and any possible advantage that such a combination in a manufacturing plant may get because its demands for rates and privileges may be incited by the cleverest and strongest man in the gang, may well be considered as offset by the fact that its results, the energy and skill of its workers, are likewise incited by the same force. And it is undeniable that this form of payment brings about a concerted action on the part of the gang, which while it may not replace or be as effective as a careful and intelligent plan from a superior executive source, is, nevertheless, a good abettor of such a plan and assists materialy when there is no such plan.

SPECIAL APPLICATIONS OF THE PIECE-WORK SYSTEM [1]

In some plants the piece-work system has been extended so that it covers almost every branch of work with the exception of that of a watchman at a fixed post. Where it is impracticable to carry out detailed time studies—such, for example, as are necessary in the Taylor system—it is often possible to accomplish a great deal, particularly in connection with those operations where piece-work is least likely to be used, since they are outside the regular manufacturing channels.

If each step in the manufacture of the product be carefully analyzed it will be found, almost without exception, that in addition to the operations which are of record and for which a piece-price may and may not be

[1] By H. F. Seward, Certified Public Accountant. Journal of Accountancy. 20 : 122-8. August, 1915.

established, considerable time is spent on work of which there is no record. This may constitute a large proportion of the overhead expense if it is paid for as day-work and applied as overhead by reason of its not being reported against specific jobs.

If a record be kept to which is posted a memorandum of all such operations together with the quantity produced and the time spent thereon, it will be necessary to have a daily system of time reports for each workman which will make it obligatory to account for each hour of the working day. With such a record, it would be impossible for a workman who, for example, might have completed a piece-work job at 2.30 p. m. to secure an allowance for the balance of the day as merely "day work" without specifying clearly the nature of the work, the quantity turned out, and the actual time consumed. The various time stamps on the market are a great aid to the accuracy of such a record, although the result may be approximated by use of a time ticket divided into hours and tenths. One ticket would be used for each operation, the starting, the finish and the elapsed time being entered thereon in pencil or by means of a punch.

A permanent record could be kept in which a page would be provided for each operation performed as shown by these individual time reports of day-work. As the tickets were received daily, they would be posted to this day-work register. It might seem at first thought that this would entail a great amount of clerical work, and in many instances this would be true. This extra work, however, would be more than offset by the knowledge gained, because after the record had been in use a short time it would be discovered that operations were being reported of which there was no record whatever. In addition to this, the cost per unit quantity could be extended on the register for each operation daily, and at the end of a reasonable time would furnish an excellent basis for the establishment of a piece-price.

In several plants where this register has been installed it has met with great opposition, but it has invariably demonstrated its efficiency not only from the standpoint of the knowledge gained, but from the fact that the production has actually been increased. It would appear that the reason for this is fundamentally to be found in human nature. If it be possible for a workman to do work without any systematic check upon him, especially where he is aware that the management is ignorant of the fact that the operation is being performed at all, it is the most natural thing in the world for him to do it in his own time, but where he knows that the results are being recorded, he will unconsciously increase his speed.

While no claim is made of extravagant results from the installation of this plan, it has been demonstrated in each case where it has been used that the increase in production has more than compensated for the extra cost of the clerical work. Naturally, the unit costs disclosed by this day-work register would not be minimum costs but would be an excellent foundation upon which to establish the final piece-rate. Even if no increased production resulted, however, the costs are actual and the record is invaluable for the purpose of estimating.

It will be found that the development of this plan can be carried out almost indefinitely, and in the factory itself it will be possible, in connection with strictly manufacturing work, eventually to place the entire work of the factory upon the piece-work basis. To carry this out in connection with mechanical work is comparatively simple and could, temporarily at least, be handled by competent foreman with sufficient training and intelligence to understand the principles involved.

When it is attempted, however, to carry it further and place such work as sweeping, hand trucking, and other non-mechanical work upon other than an hour-payment basis, it will be found, almost invariably, that

not only does a great deal of prejudice exist but that the average foreman is either incapable or unwilling to undertake the task, or that his mental inertia is such that he cannot overcome it sufficiently to make a start, it being a well established fact that the average foreman has in mind what he considers the interests of his men more than he has the interest of his employers, although he may be entirely unconscious of this.

It is the intention of this article to point out to small manufacturers who do not feel able to afford the services of specialists of this kind means whereby they themselves can accomplish a great deal and reduce their expenses materially.

Sweeping

Under present fire insurance regulations and from an economic standpoint, it is imperative that factories be kept clean and that refuse of all kinds be removed from the plant at least once a day. This is ordinarily done by sweepers. It will be found in the majority of cases that these men have a more or less roving commission, their general instructions being to see that the factory is kept clean and that refuse is disposed of daily.

In a case like this the layout of the plant should be studied with a view to mapping out routes for the sweepers to follow. Ordinarily, it could be arranged to have one man on each side of a room, both sweeping in the same direction. If one finished before the other, he would assist on the other side of the room, the refuse being placed in proper receptacles either provided with running gear or placed upon a hand truck for easy transportation. Beginning at the top of the building they would proceed downward floor by floor, provision having previously been made for empty receptacles at the end of each floor where they would finish sweeping.

In this way it can be ascertained what time is necessary, in ordinary circumstances, to clean each room,

including filling the receptacles. The removal of the receptacles, if possible, should be in charge of a gang of truckers so that the sweepers' time will be devoted entirely to that work.

In one instance with which the writer is acquainted, when this plan was inaugurated the force of sweepers was cut down from sixty-five men to forty at the end of the first week, each one of the forty men earning approximately $2.50 a day instead of $1.75 previously earned.

Trucking

The same principles apply to trucking. The proposition, however, is somewhat different in detail, owing to the variety of the work, the uncertainty of the time when the service will be required, and the routes, distances, etc. A careful study of this will show, however, whether or not the work is sufficient to warrant a central dispatching station with a clerk in charge and a telephone connected with each department. In many cases arrangements can be made in the different departments to have their work ready for transportation at specified times, and in such cases routes can be laid out so that the truckers can utilize their time to the best advantage and lose very little of it in returning light. It is important, of course, to have trucks in good condition with wheels of large diameter and well oiled. The height of the truck platforms should be studied to obviate as much lifting as possible, and the dimensions of the carrying space should be made to accommodate average loads. In many cases, it will be possible to provide steady work to and from certain departments where trucks, specially designed for the efficient handling of the particular work can be utilized.

If several good men can be interested in the experiment, the routes can be laid out and tests made to demonstrate the time required for each particular route. It

will always happen, of course, that extra work will come up, making it necessary to send trucks from the dispatching station to the departments from which the call comes. It will not always be possible to provide a load going in that direction, so that an allowance must be made for this. The dispatcher should be provided with a time stamp, and the trucker's tickets should be stamped on departure and upon return. If time stamps are employed in each department, the trucker's ticket should likewise be stamped by the foreman to whom he reports. This is particularly important in case he is sent from there to another department on a special call.

This plan, worked out systematically, will result in a material saving, there being an even greater opportunity for truckers than for sweepers to waste time. In the same plant where the reduction in the sweeping force, as above mentioned, was accomplished, a reduction of the number of truckers from eighty-six to sixty-three was made. In this connection, where a great deal of trucking is done from one building to another, it is important that side walks be smooth and hard, and it has paid in several instances to put in concrete walks.

In a great many plants which cover a wide area, where freight is received on private sidings, it is desirable to have an unloading platform of the same height as the car floor, adjacent to this siding. It is sometimes customary to have freight examined by a representative of the receiving department as soon as the car seal is broken. If this examination consists entirely of a count, as it would, for example, in the case of cement bags, it can best be carried out in the storehouse to which the contents of the car would be transported, but with some merchandise, such as copper, lead, etc., it is sometimes necessary to arrange the ingots and count them prior to their removal. This piling and counting should be done by the piece as well as the unloading upon the receiving platform.

It is often possible to utilize platform trucks operated by storage batteries which can be run directly on to the receiving platform and into the car where they can be loaded and taken to the storehouse. If the number of trucks, the number of men in the car and the number of men at the storehouse be properly proportioned it will be possible to unload each car, transport the goods to the storehouse, weigh on floor scales and pile in bins with very little waste time, a uniform piece-price being established for each gang of men. If there are several cars to unload it would be an advantage to have one gang unloading and one or two other men arranging the next cars ahead so that as soon as one car is finished the gang can proceed to the next one without loss of time.

In order for this to work out satisfactory, the roads about the plant must be in first class condition, and it will be found profitable to keep them well rolled and hard. If electric platform trucks are used to any great extent, it will sometimes pay to put in concrete sidewalks. If horses are utilized, however, care should be taken when the price is established that it is not based upon overworking the horses, because this is neither humanitarian nor economical. It will sometimes be found necessary during bad weather to make a special rate for the work, but a careful study of the proposition will disclose opportunities for saving a great deal of time.

Where it is impracticable to build a receiving platform alongside a railroad siding, hand trucks can be placed upon a wagon or automobile truck and loaded from the car, one man standing on the truck and the others in the car. Upon arriving at the storehouse the truck could be backed up to a small platform of the proper height. The hand trucks could then be pushed on this platform, from which by means of a rope and a snubbing post they could be run down an incline to the ground. If the storehouse is open at both ends, these

hand trucks can be dispensed with, the goods being piled upon the floor of the wagon and the latter driven into the storehouse to the proper point for unloading.

Miscellaneous work

Examples of work which can be handled in the same way can be multiplied indefinitely. If a plant makes a great amount of paper scrap a machine baling press can be installed, the different classes of paper being baled separately and the piece-rate being based upon the weight or the number of bales. In connection with this operation it is necessary to prepare burlap covers for the bales. These can be prepared on a sewing machine and a piece-rate established for this work. If arrangements be made with consignees to return these burlap covers, they can be used again, a piece-rate being established for overhauling them.

Another operation which can be based upon a piece-work basis is the sorting of scrap of various kinds, packing it in barrels, and coopering the barrels. It often happens that consignees return barrels, and a piece-price can be established for recoopering. If the plant is of sufficient size to have a scrap storehouse where the scrap is kept until a carload is ready for shipment, prices should be established for placing bales in piles and for loading the cars and in fact for practically all the necessary work.

Another instance of the possibility of developing the piece-work system is in connection with kilns and lumber yards. A price could be established for unloading cars of lumber, for trucking to the pile and for piling; for taking down, transferring to the kiln and piling in the kiln; and for taking down from the pile in the kiln and transferring to the cutting-up shop. In some cases lumber is cut into small pieces as soon as the car is received, the ends being painted to prevent checking, after

which the pieces are piled in a kiln. A piece-price can be established for all this work.

The above illustrates only a few of the possibilities. In making an investigation of this character it is important to study each element of each operation, because it is often possible to change the gang of men in order to have them work together more economically, and this cannot be done without complete knowledge of the detail of the work to be accomplished.

CHAPTER IV

DAY-WORK AND WEEK-WORK

THE RESULTS OF DAY-WORK SYSTEM[1]

Day-work, or that in which men are paid for the time they spend, may be divided into two classes; first, ordinary day-work in which there is no attempt made to keep individual records, and every man of a class receives the same wages regardless of the amount of work he does; second, that in which the work is carefully planned beforehand so that each man can have continuous work, and so that an exact record can be kept of what he does, and his rate of pay adjusted accordingly.

The day-rate of any class of men, such as laborers, weavers, machinists, moulders, etc., is regulated by supply and demand, except where it is regulated by the union; and in times of extreme depression even the unions are unable to keep up the rate. The rate may be, and usually is, different in different localities. Under the condition where no individual records are kept, it does not make much difference whether one man is more efficient than another or not; it is almost impossible for him to get a higher rate of wages than the rest of them. If the pay of one is raised, others are apt to claim that they also are entitled to an increase, and in the absence of records it is impossible often to disprove their claim. To save discussion, then, and possible trouble, the employer declines to sanction any increase of pay. The industrious and efficient man naturally becomes dissatisfied and gradually slackens his pace to that of the poorer

[1] From Work, Wages and Profits, by H. L. Gantt. p. 65-70. Engineering Magazine Company. 1916. Reprinted by courtesy of the publishers.

workman. Thus the employer, who pays only the rate the poorer man can earn, gets only the efficiency he pays for, even from his capable man, who thus works far below his capacity.

This method of buying labor is similar to buying all materials sold under the same name at the same price, without regard to quality; but it is much more wasteful, as the difference in the quality of materials is seldom as great as the range of efficiency in workmen.

The result of this policy—and it is the logical result—is that the efficient man, the man with boundless energy to spare, says: "I can't get any more money by doing more work. I am going to see if I can get it some other way." Then he organizes all his fellows into a union, and they all say, "We want more money!" and they get it, and no man cares whether he does more work or not. The moral tone of the shop and the community is lowered, as is always the case when there is a resort to force.

In the second class of day-work some intelligent man studies the work to be done, lays it out carefully, perhaps several days ahead, provides the proper appliances, divides it up in such a manner that it can be done by individuals or by men in small gangs, so an exact record can be kept of what each individual or gang does, and compensation be made accordingly. Such a method of handling workmen has exactly the reverse effect, and their efficiency begins to increase at once. When we increase one man's wages because his record shows he deserves it, it not only does not cause trouble with the other workmen, but it acts as a stimulus to them, and we are glad to have each workman know what the others are making.

It is difficult and often impossible, especially at first, to plan all the work of a plant and to keep a record of each workman, but some planning can be done, and some records kept in almost every case; and if a few

steps in this direction are taken, the advantage of taking more will soon become evident.

If the conditions are such that we can plan out the work ahead of time, we will get a fair degree of efficiency by keeping individual records of the workmen, and raising their day-rate accordingly. As a matter of fact, a better efficiency can be obtained by this method than by the ordinary system of piece-work, where the rates are set by past records or the estimates of the foreman; and the tone of the shop is far better.

FALLACY OF THE DAY-PAY PRINCIPLE[1]

The conception underlying day-pay is that a certain sum of money is arithmetically equal to a certain number of hours spent by a man—any man—at doing a certain kind of work. For example, every man digging dirt is worth $1.50 for ten hours' labor; every man laying brick is worth $5 for eight hours' labor. Stated this way, baldly and without qualification, the notion seems so foolish that it is hard to see how it ever became so generally adopted in practice. It would be as intelligent to base an economic system on the hypothesis that a string is always six feet long or that all horses run equally fast. Nevertheless, the conception persists, and will long continue to persist, and you will have to deal with it. It is in the moral code of many labor unions as the first and great commandment. The reason, as already suggested, is that the unions have found it necessary to resort to collective bargaining and to demand a universal wage-rate, chiefly because there has been in general no method practiced by employers for fair and honest individual bargaining with each man according to his ability. The result of the whole thing is a struggle

[1] From Principles of Industrial Engineering, by Charles B. Going. p. 118-20. McGraw-Hill Book Company. New York. Reprinted by permission of the publishers.

between opposing forces, the employer trying to push the day-wage down because he has no satisfactory assurance of anything but minimum efficiency on the part of his workmen, and therefore he wants to pay the minimum price; and the men trying to force the rate up because they cannot get it up in any way except by force.

This sort of struggle is constantly going on, with variable results. Where labor is abundant or poorly organized, and where the employer or sub-bosses have a genius for driving, probably as highly efficient results are secured under the day-wage plan as under any other; that is, the employer gets as high a product for the dollar he expends as he can get by any method. Where labor is powerful and well organized and much in demand, the results secured under the day-wage system are perhaps as inefficient, as little return is obtained for each dollar expended, as in any application of capital to productive or constructive work, except, perhaps, in deliberately dishonest political jobs.

Nevertheless, the day-wage remains today the method of payment for a very large proportion, perhaps a large majority, of all service. I have dwelt strongly upon its unfavorable features, but, of course, they are to a certain extent, even if imperfectly, remedied in practice. The extremely good man cannot be held down, and he will break through even the dead level of day-pay; so the fallacy of assuming that all men are equally worth $1.50 a day is corrected fractionally by picking out here and there a peculiarly able man and making him a job boss or a sub-foreman at $2 or $2.50, while the hopelessly incapable fellow is fired off the job and gets no wages at all. The plan as a whole is one of those rough and ready ones that the world has always used and always will use. And it does express, although it expresses it badly, a certain vital truth; that is, that time, after all, is the one supreme value that must be seized and used moment by moment or it is lost forever. If

machinery is idle the opportunity may usefully be taken to overhaul and repair it; if material is idle it may be worked over into something else which is active; if dollars are idle they are only dormant and will come to life and into circulation as soon as there is an opportunity. But if hours are idle they are dead and gone forever. This truth of the fundamental value of time is recognized by the day-pay system. You will find the system in use everywhere and you will have to get along with it; nevertheless, in most cases a much more intelligent plan for hiring time than the day-wages plan can be devised and may be applicable.

OBJECTIONS TO TIME-WORK[1]

It is obvious that of all methods the furthest removed from the ideal is that of time-wages at a uniform rate. It presupposes an equality which has no existence, and it is therefore based on a false principle. The more skilled the work the more false the principle. That becomes clear if the most highly skilled occupations, which are those requiring the greatest mental effort or the rarest natural gifts, are considered. In these the reward transcends pecuniary remuneration altogether and cannot be measured at all; it is purely personal. When power and fame, the approbation, the confidence or the love of one's fellows, the satisfaction of conscience and the sense of duty are among the earnings, the very idea of equality is out of the question; it becomes unthinkable. The individual diversity thus plainly revealed in the higher occupations and their rewards extend in some measure throughout the scale, but becomes less as we descend into the regions of manual labor until we reach the lowest strata of unskilled work. Here there

[1] From Arthur Shadwell's Industrial Efficiency. p. 390. Longmans, Green & Company. New York. 1913. Reprinted by permission of the publishers.

is least room for variation in the value of services rendered, and therefore least waste of potential energy through failure to elicit it by varying incentives. In the most unskilled labor the value to the community of one man who can do the work at all is most nearly the same as that of another, and a uniform scale of payment by time is therefore least uneconomical. In proportion to the departure from that standard it becomes more and more uneconomical. To condemn any men to it who might be subject to another system is to mark them with the brand of inefficiency. The minimum time-wage is itself a sort of tacit and unconscious protest against a uniform rate, for a minimum implies possible variations which are not to sink below but may rise above. In short, time-work should be avoided whenever possible, unless it be adjusted to individual capacity

PART II

CHAPTER V

PRINCIPLES, METHODS AND RESULTS OF BONUS SYSTEMS

REPORT OF COMMITTEE ON BONUS SYSTEMS IN ELECTRIC LIGHT INDUSTRY

A committee appointed by the National Electric Light Association in May, 1920 investigated the bonus systems used in one hundred and forty large central station companies and supplemented this study by an investigation of twenty of the largest industrial concerns of the country. The following digest of the committee's report offers a good summary of the principles underlying incentive plans.—Editor.

An extract from the discussion of the Accounting Section at the 1919 Convention of the National Electric Light Association summarizes the circumstances under which the Bonus Systems Committee was formed:

> In our profession and with our clerks, it is inevitable that a man, after he has served a number of years and attained a certain efficiency, reaches the maximum rate of pay. When a man has reached that point he has gotten about as far along as he can get. I think that is true of the great bulk of our people. He has reached the point where he is receiving all the pay there is in a certain occupation, he does not see much ahead of him and he is apt to lay back on his oars and perform just about as much work as is necessary to hold his job. The question arises if there is not some incentive we can put in front of that man to keep him on his toes more or less all the time, so that when he does a good piece of work, he will be benefited by it and see the benefit in the form of cash. It may be that the bonus system is the solution of this kind of trouble.

Definitions

Need for Exact Definitions

The preliminary researches and discussions of the committee brought out the fact that very little had been

published to develop and define the theory of bonus systems, and that there were innumerable other methods of wage payment that resembled bonus systems and were often loosely referred to as such. Before a study of bonus systems could be made it was necessary to define exactly the term "bonus system" and to eliminate definitely other methods of wage payment from the consideration of the committee.

The various methods of wage payment may be grouped between their two extremes, which are the old-fashioned straight hourly-wage and its direct opposite, piece-work. Between these two methods lies the so-called "incentive-wage" group, of which the bonus system is one.

Definition of Bonus System

A bonus system of wage payment is a plan for stimulating workers to interested effort, and for sharing with them extra results of their industry. It presupposes the employment of the worker at the regular hourly- or weekly-wage, that is, the going market price for his grade of labor. In return for the regular wage the worker is required to accomplish a standard normal quantity of work of passable quality. For the accomplishment of work in excess of standard requirements the employer pays to the worker a bonus above the market price for his labor. The extra accomplishment above normal which earns the bonus may be attained in any one or more of a number of directions; for example, the increase of the quantity of work produced, the improvement of its quality, the lessening of labor turnover, the elimination of errors, the reduction of operating costs, or the economical use of materials, such as coal. These accomplishments are the direct or primary objects for which the employer offers the bonus to the worker.

Secondary Objects

There are also a great many less direct or secondary objects to be attained by the establishment of bonus systems. Among these may be mentioned greater satisfaction among the employees, the same production with less effort, i.e., more efficient work, the stabilization of an organization, the encouragement of initiative for the purpose of developing executives, the elimination of unrest, the elimination of the evil results from certain tendencies of labor unions, and the development of more accurate methods of rewarding employees directly for the results of their work, for the broad human reason that men should be treated as human beings instead of as machines, as well as many others which it is difficult to enumerate.

Understanding and Sympathy Needed

To accomplish successfully and continuously the objects in mind requires from the employer a knowledge of the best methods of performing various operations and duties, and proper instruction and training so that the employee may reach the required proficiency; a continuous study of and search for improved methods; the maintenance of favorable working conditions and, in general, a sincere sympathy with and clear appreciation of the employee's needs and desires.

There is required from the employee, within the limits of his ability, individual efficiency, initiative, creative ability and a satisfactory character of work, and particularly an understanding of the employer's interests and a desire to cooperate in the accomplishment of the work in hand.

Without this sincere sympathy on the part of the employer and a spirit of cooperation on the part of the employee, it is doubtful if any system of payments or rewards by itself can produce permanently satisfactory results.

Plans Not Considered

Having accepted the definition of the term "bonus system" as given above, the committee has excluded from its consideration a great number of plans which resemble bonus systems and which are often loosely referred to as bonus plans. It is certain that there is a great deal of merit in a number of these unconsidered plans and the committee wishes to suggest that a detailed study of them by succeeding committees would be of great value to the association. They are excluded here because they are not true bonus plans and do not come under the scope of a committee appointed to study bonus systems.

The plans which the committee has excluded from its consideration are profit-sharing, piece-work, commissions (usually to salesmen), prizes, safety awards, sale of stock to employees on advantageous terms, commissions on sales of the company's stock, cost-of-living bonuses, group life insurance and employees' savings plans.

Profit-sharing in particular has enjoyed wide popularity of late in the endeavor to give workers a larger share in the results of their labor. At times certain features of profit-sharing plans cause them to resemble very closely bonus plans and the distinction between them is difficult to make.

Commissions to salesmen and others bear a close resemblance to bonus plans, but the committee has not studied them because they are not true bonus plans. The scheme of boosting sales by giving commissions to the salesmen is very much older than the modern bonus plan and is pretty generally understood and accepted by both employers and workers.

Cost-of-living bonuses, so-called, are in reality not bonus plans but expedients to adjust wage scales to fit cost-of-living conditions which are considered to be of a temporary character. They are called bonuses, but the difference between them and a true bonus plan is so obvious as to require no explanation.

Summary

Having defined a bonus as an extra wage beyond the going market price for labor in return for effort or excellence on the part of the worker in excess of that considered normal, and having drawn the line clearly between true bonus plans and the multitude of plans loosely referred to as such, the committee can now give the results of its investigations of the status of bonus plans in the central station industry.

Recent Origin of Bonus Plans

It is noteworthy that a great many of the bonus plans are of comparatively recent origin, a large part of them having been instituted during the war period. The newness of the plans described, together with the small percentage of the employees affected and the widely differing opinions as to their value, definitely place the bonus system, at least for central station companies, on a trial or experimental basis. Its final success or failure has not yet been proven.

Types of Bonus Plans in Use

Economy Bonuses

Economy bonuses are designed to promote economy in the use of material, for our industry this material being almost exclusively coal. This type of bonus is particularly adapted to generating station employees and has been tried out in nine such stations and discarded in three of them. Changes in generating equipment and in the quality of coal used compel dislocating adjustments which are often so serious as to cause the discontinuance of the plan. It has been the least successful of the five types.

Continuity Bonuses

Continuity bonuses are paid to employees as reward for uninterrupted terms of service and are designed to

reduce labor turnover. This type of bonus was especially popular during periods of labor scarcity due to the war. It may be paid to hourly men for not laying off at awkward times or to employees who attain two, three or four years of continuous service. It is usually offered indiscriminately to all employees, but may be used to relieve a particularly hard pressed department. In the latter case its useful life is apt to be short. This type of bonus was reported by thirteen companies of which three had discarded it.

Quality Bonuses

Quality bonuses are paid to workers who do work of a grade consistently higher than normal. The standards set are various and the object to be attained may be accuracy, neatness in personal appearance, punctuality to schedule, thoroughness or any one of a number of others which will suggest themselves. Such bonuses usually take the form of the payment of a lump sum, from which deductions are made for various failures to attain the standards set, and they tend to slow up the workers and make them more careful, rather than to increase their production. This type of bonus was reported by eight companies and has not been discarded by any of them.

Quantity Bonuses

Quantity bonuses are used to stimulate interest and activity on dreary routine jobs in order to increase production. They involve the counting and rating of individual output and must be accompanied by a check to prevent unsatisfactory work. This check may take the form of inspection before acceptance or of deductions and penalties for a poor grade of work or frequent errors. Repetitive operations covering a great volume of similar work, such as meter reading or customers' billing, lend themselves to this type of bonus plan. It has been reported by thirteen companies and discarded by two, one because of trouble with a labor union and the other because of faults in the plan. It is used chiefly in meter

reading, customers' billing, meter cut-off work, bill delivery and meter testing work.

Cost Bonuses

Cost bonuses are defined as that type of bonus plan which involves the setting of a standard cost for the completion of an operation or of a series of operations. If the time required by the workers to accomplish the operation multiplied by their rate of pay gives a product less than the standard cost, there is a saving, which may be divided between the workers and the company. Instead of setting a standard cost, the time in which the work should normally be completed is sometimes standardized, so that changes in the basic wages will not compel a change in the standard. This is the most difficult type of bonus plan to set up, and was reported by only three companies. It involves time studies or very careful record work and adjustments have to be made for changed working conditions or variations in the general market price for labor. Its direct object is the reduction of operating expense through the more efficient execution of the assigned tasks. The two companies mentioned above have used cost bonuses to a large extent, applying them to a great many different classes of work.

To Groups or to Individuals

Any of the above five types of bonus wage may be applied either to individuals or to small groups of workers and this fact does not constitute a change in the type of bonus. If bonus is paid to individuals, it develops competition and rewards personal effort; if paid to small groups of workers, it promotes cooperation and tends to make slow or inefficient individual workers very unpopular with the rest of their group. Bonuses earned by a group of workers may be prorated to the constituent individuals on a point system, or in proportion to their base wages.

Complex or Rudimentary Forms

Two or even more of the five different types of bonus plans may appear on the same bonus schedule. Thus a quantity bonus tempered by deductions or penalties for poor quality might be said to be a quantity-quality combination. At times a continuity feature is injected by a condition that only employees of three months' standing may earn bonus, or that employees leaving in the middle of a month forfeit their share of the bonus for the month.

Rudimentary or undeveloped forms of bonus wages are very common. Practically all companies pay the best wages to those employees who secure best results in quantity or quality. Other companies make it a practice to raise the wages of an employee after a probationary period during which he has "made good." This is a very low type of continuity bonus. Such systems of wage payment are not recognized as bonus plans, unless the conditions of the increases in pay are published to the employees.

Establishment of a Bonus System

Study Objects to Be Attained

The first thing requiring attention in the preliminary work preceding the establishment of a bonus plan is the study and analysis of the objects to be attained. If turnover is so excessive as to render the organization unstable and inexperienced, an incentive-wage to make the men stick to their jobs, i.e., a continuity bonus, may help the situation. If workers have lost hope and are plugging drearily along at a routine task, a reward for greater production will stimulate interest and enable them to increase their earnings. If errors are frequent and costly and the company's reputation for accuracy is suffering, the quality bonus may improve the grade of work. A number of direct objects may be combined, with stress on the more important ones, in a single bonus schedule.

Secondary Effects

Not less important than the immediate end to be attained, is the study of the after-effects of the introduction of bonus plan. These are sometimes very difficult to anticipate. Labor unions may develop unexpected antipathy to the plan, the desire to earn bonus may breed dishonesty and deceit in the workers, employees may grow to regard the bonus as a part of their just wages and demand it whether they earn it or not.

Study Working Conditions

To determine what constitutes a normal condition of affairs before adopting a bonus plan it is necessary to examine records, make time studies and study working conditions. A number of reporting companies have emphasized the fact that this preliminary study has led to changes in office procedure, desk arrangement, printing of forms, etc., that have been of very great value. Records of conditions before the inauguration of the bonus plan should be obtained for comparison with records made after the plan has gone into effect. If this is not done it is difficult to tell whether the bonus scheme costs more than it is worth or not.

Establishment of System

The actual establishment of the bonus system involves the setting up of the necessary office apparatus to keep a separate record of the performance of each worker or of each group of workers in case the bonus is paid to groups. If the bonus schedule is complicated, the work of keeping these records may be very great, and the subsequent work of computing the size of the bonus checks will be a considerable item of expense. The bonus system should be as simple as is consistent with the direct objects to be attained. Each worker should be encouraged to figure his own bonus in order to increase his interest and to establish his confidence in the regular computing clerks. The setting of standards of

performance where these are based on statistics, and the routine computation of bonuses, should be handled by a detached department to prevent any chance of prejudice or unfairness. The work of this separate department may be extended to provide the executive with cost reports and to study and give advice to other departments in which the possible introduction of the plan is being considered. After the plan has been in use for a time, there are bound to appear certain discrepancies and crudities that can very well be adjusted by this department. If the number of workers under the bonus plan is small, this department dwindles down to one man, and the work may, indeed, take only a part of his time. In this case he should be sufficiently detached to maintain an unbiased and impersonal viewpoint.

Favorable Conditions

Bonus systems, especially those of the quantity and cost types are most easily established in those departments where there is a great volume of repetitive operations, such as occur in meter reading and in customers' billing. Such work lends itself most readily to the setting of standards and the keeping of the necessary records of the individual workers. The work is also apt to be naturally dreary and monotonous and it seems to require an incentive-wage to secure its economical accomplishment. In work of a varied character, it is necessary to rate the different parts of the work on an arbitrary system of points which may be added up to determine worker's total score, and this introduces an additional complication. Bonus plans should be kept as simple as possible.

Notes on the Theory of Bonus Systems

Avoid Increasing Requirements

The experience of reporting companies has emphasized certain general considerations that should be

kept in mind to avoid undesirable secondary effects. Employees must be convinced that after a bonus schedule has once been definitely established embodying the standard requirements to earn the base-wage, these requirements will not be raised in order to get more out of the workers for the same money. This is absolutely necessary to avoid the stigma which has become associated with piece-work and which has brought the latter form of wage payment into such disrepute with organized labor. Necessary adjustments to care for changed working conditions should be made with the greatest care and should rather favor the employees than otherwise.

Relation of Bonus to Base Wage

The bonus should be of a respectable size as compared to the base wage; large enough to furnish an adequate reward for the increased effort. A reasonable proportion seems to exist when the bonus that may be readily earned by a worker of average capacity is about 10 per cent of the base wage. It may be larger than this with advantage, but if it is much smaller, it begins to assume the aspects of pin-money.

Division of Savings

The amount of the direct saving under a bonus plan is the difference between the standard requirements and the actual accomplishment of the workers. In quantity, economy and cost bonus plans the direct saving is usually easy to compute in dollars; in continuity and quality plans, it is not ordinarily possible to make this computation and the saving must be estimated. Current practice differs as to the sharing of the amount of money saved between the employer and the worker. In the case of the two large companies mentioned before, 40 per cent of the direct saving goes to the employee, 40 per cent to the company, and the remaining 20 per cent is used to defray the expenses of operating the bonus plan. Another large company making extensive use of the cost

bonus plan awards the entire direct saving to the employee and is content with the saving on overhead as its share.

Maintain Identity of Bonus

The bonus is an extra reward for unusual effort and it is well to maintain its identity as such, lest the employees grow to regard it as a part of their regular wage and demand it whether they earn it or not. Identity may be maintained by allowing the amount of the bonus to fluctuate quite widely and by making the bonus payment on a check separate from the one used to pay the base wage and possibly issued at a different time.

Equal Opportunity

It is essential that all workers coming under the same bonus schedule have equal opportunities of earning bonus. The one company which discarded a quantity bonus plan for meter readers reports that a post-mortem of the methods of assigning work revealed the fact that the maximum possible bonus which individual readers might attain on their assignments actually varied from 26 cents to $3.50 per day. In this case the workers ceased to rely on their own efforts and began praying the god of chance for a fat assignment, thereby defeating the direct object of the scheme.

Training and Encouragement

The study of the reasons why certain workers persistently fail to earn bonus will sometimes reveal serious faults in the schedule. One company which has adopted the bonus plan very extensively for a large office force pays particular attention to those workers who seem unable to earn the bonus, giving them special advice and encouragement and offering special prizes for even slight improvement. If the worker is still unsuccessful he is transferred to another branch of the work to which he seems better adopted.

Conclusion

Disadvantages of Bonus Systems

The disadvantages of bonus systems arise mostly from the practical difficulties of making them work. It is very difficult to establish fair standards of performance, especially for work which does not lend itself to such treatment, such as goes on in an ordinary accounting department. Theorists are apt to evolve intricate combinations appalling in their mass of detail. Loosely drawn or carelessly administered bonus schedules will give rise to unfairness and dissatisfaction. Employees are tempted to devise plans for beating the game and thus taking unfair advantage of a plan which was intended to increase their opportunities for earning. The interest which was very strong at first tends to peter out as the bonus plan becomes an old story. Employees come to regard the bonus as a part of their salary and to grumble if they fail to earn it. Employers are apt to seize on bonus plans as a pretext for reducing costs and crowding their men. Labor unions are apt to regard bonus plans as expedients to do them out of their just deserts and to demand forthwith an old-fashioned, honest, hourly-wage that they can understand.

Advantages of Bonus Systems

There is one advantage of a bonus system that seems to exist whether the system works or not. The study of conditions which is a necessary preliminary often results in changes which greatly increase the efficiency of the department in question.

If the system works out successfully, there are evident all of the advantages of the incentive-wage. The workers take a personal interest in their work and are continually devising short-cuts and new methods. Idlers are eliminated and the atmosphere of the department becomes one of interested effort. Employees are enabled

to increase their earnings and this makes them more contented.

A bonus system of wage payment has a great many theoretical advantages, but there are very serious practical difficulties in the work of applying the theory to actual conditions.

BONUS SYSTEMS, THEIR ADVANTAGES AND DISADVANTAGES [1]

A bonus system for employees is a system whereby employees may receive additional earnings besides their regular salaries. This extra earning is given for additional service above a given stated service. A bonus system is based on the fundamental law that every man shall receive a reward according to his labors. The ideal bonus system is that system which serves the employees best and at the same time advances the best interests of the company.

The purpose of a bonus system is to create an interest in the individual employee for producing better results for the company he is serving. It should create a good will between the employees and the employer. It should also promote cooperation and loyalty between the employees and between the employees and the employer. It should stimulate the salesman to sell more goods, the office crew to be more accurate, and the operator to become more efficient.

It is a conceded fact in the commercial world that a reward for interest and efficient work will always produce a paying return. A good-will between an employee and the employer is one of the best assets a company can have; and this good-will of the employee can always be secured by a good-will toward him and a reasonable salary or bonus for interest and service given.

[1] By W. A. Darter. Power Plant Engineering. 25 : 283-4. March 1, 1921.

In all companies, there are always some men who are more efficient than others doing the same class of work. To keep these men on the same salary without giving them an opportunity for earning extra pay will cause them gradually to set their pace to conform with the average man. The correct bonus system will develop this individual interest and pay in the end much more than its cost.

A bonus system created on wrong principles may do harm as well as good. Its results must not be rivalry between the men to the extent that they do not pull together. Rivalry among the employees will sometimes lead to trickery and plotting that will tend to cause the other fellow to lose out. A bonus system must not have the tendency to cause the employees to keep secret from other employees any efficient method of doing their work. This will naturally keep down the possible average efficiency.

To get the best results from a bonus system, it must be based upon correct principles. The best basis for a bonus system is to pay a minimum salary or wage, the amount of which is based upon what the average man can do, or be hired for. Then all over this that a man can earn becomes a bonus. The ideal salary or wage is the salary or wage that will exactly cover the service given by each individual.

There are two ways of paying an employee. One way is to pay him for so much time given in service; the other way is to pay him for doing so much work. The employee who is being paid for time in service could receive a bonus only on extra time put in, or on better than average efficiency. The employee who is paid for doing so much work can receive a bonus on more than average work done, or results achieved.

There are several forms of bonus systems; each condition will call for a different system.

One of the simplest bonus systems is the giving to

each employee at the end of a period of six months or a year, a certain part or a whole month's pay. With this system, sometimes the number of years of service given by the employee is taken into consideration.

This is practically the same as a straight wage system, except that the value of one month's pay is held back from the employee until this period of time has passed. It is generally given in order to hold the employees in service so that the labor turnover expense will be less. As a whole, it serves the company very little; except at the time the bonus is given, the men show little extra interest in their work. This system does not bring out the individual interest and fails to give the company the returns it should receive for this outlay of money. It is reasonable to believe that if this bonus were distributed throughout the year to the employee the extra pay would employ a better class of workmen and as a whole the net gain would be a great deal more.

Another simple bonus system is offering a reward to an individual or group of men for doing more work or doing it more efficiently than another individual or group of men.

This system will usually produce rivalry between these men, and will under certain conditions produce good results; it will also cause the men to plot against each other to cause each other's downfall. It will also sometimes result in enmity between the men and the foundation for cooperation is lost. Also, after the best side has been shown, and they always capture the prize, then the weaker side loses interest and the reward ceases to bring results. As an example, in a certain power plant a reward was offered to the engineering shift that showed the least average B.t.u of heat per kilowatt-hour during a month's run with all operating conditions the same. It developed that when one side realized that they were falling behind the other side, they created a bypath for the fuel oil around the oil meter. As a result,

the losing side became more careless because they did not have to try to make a good showing. Enmity was bred between the two shifts and cooperation was lost.

One of the best systems and the system most used is the profit-sharing system, which gives every employee a certain per cent of the profits of the company, based on his salary.

Generally these earnings are distributed once a year; and to some extent, as a result, the interest among the employees will not be the same throughout the year. Yet this bonus, when all parts of the company are taking an interest, will have the tendency to keep the men interested, and promote loyalty and good-will between the employees and the company. It also happens sometimes, when one department of the company is losing money, that another department of the company will lose interest, even though this part of the company is in a position to make excess profits. Hence, as a whole, the net profits of the company will be less. Also, in profit-sharing there is generally no loss-sharing, and the company loses during a bad year. If the employee is made to stand part of the loss, then the average employee will fail to see the justice of it and become offended.

Similar to the profit-sharing system is a system where each department of the company receives a bonus on extra service above a given minimum service. This system if carried out on the right basis is also a good one. If the bonus is paid at short intervals, it will stimulate the average employee to do better work and more of it.

The best results are obtained when the average salary is not too high, and where the minimum service is not made too high. If the average salary is high and the minimum mark is set high, then the average employee knows he has little chance to reach the point where he will receive extra gain, hence he loses interest and does not exert himself more than is necessary to keep his place in line.

There is a tendency among some employees to slight their work in order to gain a definite point. As an example, a bonus was offered to each meter reader for additional meter readings above a given minimum. As a result the meter readers contested for the thickest settled district and in some cases caused friction between them. It also caused the reader to skip some meters that were hard to reach, and necessarily called for extra time in reading them later. It also caused them to read others inaccurately, due to their haste, and this in return caused the office more work in rereading these meters and settling disputes, and as a final result it cost the company more to straighten out errors than it saved in decreasing meter readers.

A very simple but result-getting bonus system is to pay a certain bonus to each individual for each good suggestion that is turned into the company and used. This method puts every employee to thinking and studying the conditions under which he is working. This system does not call for cooperation among the employees or between the employees and the employer, yet it promotes interest and good-will among all.

When an employee makes a suggestion and that suggestion proves to be a good one and is put into operation, the employee will feel more forcibly that he has a part in the operation of the company. This will create more interest and loyalty in the employee, and will make him more efficient.

Any bonus system that will cause the average employee to exert his best efforts for the company's good, and that will develop the individual and promote loyalty and cooperation, without too much cost to the company, will pay good dividends.

CHAPTER VI

BONUSES FOR INCREASED PRODUCTION

Bonus plans for increased production are offered in various forms ranging from the type which means a gift at the end of the year, if business has been good, to the type which lays down certain standards of production and compensates the worker for additional output.

All financial incentives are more or less closely bound up with the matter of production, and are intended to serve as a stimulus to the worker.

This brief summary will take up some of the simpler plans that distinctly provide extra payment for extra production.

A very simple production incentive is seen in the practice of concerns like the Standard Kid Manufacturing Company of Wilmington, Delaware, which gives employees a Christmas gift "according to the success of the business during the year."

The incentive in such a scheme is directed toward the entire personnel of the concern. The usual procedure, however, is to apply incentives to individuals. In some cases an entire department is used as the unit of measurement of results and the bonus is distributed among the members of the department either prorata or according to the position held by the individual. Some employers claim this plan to be more effective than the individual bonus plan as it not only urges the employee to produce more, but interests him in seeing that his fellow employees keep on the job: he then thinks in terms of the whole plant's success.

Group Bonuses

How a group production bonus operates is shown by the following statement of the head of the Stanley Insulating Company who says:

We have studied our production costs over a long period and have found what approximates the minimum time in which one unit of our production can be manufactured. (The following figures are only for the purpose of illustration.) In our eighty thousand hours of productive labor per month we will produce twenty thousand bottles. This means four hours of labor per bottle produced. We have announced to the plant that this figure can be lowered, but that it will require steady and consistent work on the part of every man engaged in a productive capacity.

If, over the period of a month, the number of hours per bottle is reduced 10 per cent each man in the plant will receive a bonus of 5 per cent on his pay for that month. The same for any other reduction, for example: for a 2 per cent saving there will be a 1 per cent bonus; for a 4 per cent saving there will be a 2 per cent bonus and so on. In other words, we split the labor saving on a fifty-fifty basis with the men.

In one department in which six men were working these men got together with the foreman and decided that five men could do the work and voluntarily asked the management to cut down the force by one man. He, of course, was transferred to another department. Another case, a group of four men thought that one department was not carrying its fair share of the burden and that this particular department had one man more than it should have had. They went to the foreman and asked him to cut out a man. He refused to cooperate, and the men in the plant made it so unpleasant for him that he resigned and a new man was appointed. He immediately made the saving demanded by the men themselves.

On a recent trip to the factory I noticed that a trucker who ordinarily carries two trays of bottles on his truck is now carrying three. Apparently the plan is absolutely satisfactory to the men themselves.

A GROUP BONUS PLAN[1]

A factory producing motor cars, and manufacturing most of its parts, may have in the neighborhood of three

[1] By E. K. Wennerlund, General Motors Corporation, Detroit. 100%. p. 88-96. May, 1921. This article describes the plan used in the six plants of the company.

thousand distinct parts in process in various departments. Each of these parts requires from one to twenty-five operations in its manufacture and assembly.

Thus, an automobile factory may have from fifteen thousand to twenty thousand distinct operations which have to be recorded and paid for under the individual incentive plan. We have had as high as fifty thousand job tickets as a daily average in one factory organization.

The issuance of these job tickets, with the consequent individual quantity check on production, entails an immense amount of clerical detail. In addition there is the necessity for extending the amount on each ticket and making credit entries to individuals.

Many plants, of course do not have this large volume of parts and operations in the aggregate; but taking department by department the relative amount of clerical detail involved is apt to be burdensome and expensive.

For the purpose of eliminating so far as practicable all unnecessary clerical detail, the General Motors Corporation has introduced gradually into a number of its plants the group bonus plan of wage incentive. This method has been developed and extended during the past three years, until at the present time it has become standard practice in sixteen of its factories.

The saving in overhead and the result in increased output have been found so satisfactory that managers in charge of these plants have become much in favor of the continued extension of this system of wage incentive.

The objects to be attained by organizing the factory, so far as practicable, on the group bonus plan are as follows:

1. Simplify the factory clerical system.
2. Eliminate lost time to workers, incident to obtaining job tickets and checking elapsed time on operations.

3. Obtain an accurate check on quantities completed, as the basis for payment for each group operation.

4. Simplify the time and cost system.

Under this plan the workers are organized into small groups. All operations on a part, performed by a group, are combined into one group operation. A series of groups working on a line of product becomes a "division." A standard time is set for each group operation, but the quantity check is taken from the end of the division; or it may be taken from the end of the finished assembly line.

A group is credited with the standard hours value of the product; viz: the group standard time multiplied by the quantity completed by the division. It is debited with the elapsed actual hours of the workers assigned to the group. The ratio of the group standard hours to the actual hours, cumulatively for a pay period, constitutes the group efficiency.

A bonus is offered each worker as a percentage on his pay period wages earned while assigned to the group. The percentage of bonus earned is dependent on the group average efficiency, and is obtained from a bonus table.

The greater the quantity of product from a division, the greater becomes the standard hours group credit; and the fewer the elapsed hours worked in the group to obtain this product, the higher becomes the group efficiency.

Simple Accounting Records

No checking of elapsed time on operations is necessary, regardless of how many different parts go through a division. Only two main statements of information are required for group accounting and costs.

(a) Credits. The quantity of each part completed by the division, multiplied by the group standard time.

(b) Debits. The clock number and daily elapsed hours of each worker in the group.

An individual may be assigned consecutively to several groups during a pay period, and he may earn a bonus in each. His bonus will be based on the average efficiency of each group and the number of hours worked in each.

The advantages shown after a considerable period of experience, wherever the plan has been properly installed are found to be:

1. No job tickets are necessary on group operations.

2. Counting or checking material in lots between operations is eliminated.

3. Employees need not leave their work, or collect coupons, to obtain credit for quantities completed.

4. A spirit of team-work is developed in each group, thus materially reducing the labor turnover.

5. Inefficient workers are eliminated.

6. Workers may do any operation within a group without transfers or job tickets.

7. A greater volume of production per man hour is obtained than under the individual system.

8. With the bonus plan there is no cause for controversy as to the division of earnings among the members of the group.

9. Accurate costs are obtained with a minimum of clerical effort.

The group bonus plan lends itself primarily to repetitive work, either on the same part or on parts having similar operations; viz: where lines of machinery are arranged to manufacture definite products repeatedly. Most modern factories have a large percentage of their work organized on a repetitive basis. It can also be introduced successfully to include small groups having miscellaneous operations on a large variety of product,

provided such parts can be regularly routed to definite groups.

Community of Interest Essential

It is not considered that the group plan, as here outlined, is adaptable to miscellaneous jobbing or contract work, or to tool work; nor, is it calculated that it should be introduced generally to combine operations where each job is self contained, such as molding or forge work. There must be a community of interest in the output between members of the same group.

Although the group plan is essentially designed for progressive manufacturing, it is being applied with marked success to other classes of work where the group interest in production can be maintained; as for example, rough grinding of miscellaneous material, heat-treat departments, stock room attendants, loading or unloading material.

Organization of Groups

The methods recommended for organizing the shop on the group bonus plan embrace the following steps which are explained in some detail under their respective headings:

1. Divide the department into divisions, each division having one or more definite lines of product.
2. Organize divisions, into groups. Each group, whenever practicable, should consist, of five or six employees, or less. Where it is found impracticable to handle small groups on account of transfer of workers, two or more groups may be combined.
3. Appoint a group leader for each group.
4. Make a shop routing for each part, or assembly, going through a division. All minor operations performed by a group on a given part are merged into one standard operation on the routing sheet.
5. Time study each minor operation done by a

group. The sum of these minor operation standard times, plus extraordinary allowance, if any, becomes the standard time for the group operation, and is used as a basis for the measurement of efficiency and the payment of bonus. The standard time of the group operation must be on a man-hour basis to permit of a varied number of employees being assigned to the group without change in the standard time unit.

6. Arrange to give each group credit in standard man-hours for all work passing through its division and accepted by the inspector. This is computed by multiplying the group standard time by the number of pieces. The counting point may be at the end of the division, or at the end of the assembly line, depending on shop conditions. It is evident that the standard time for one group has no relation to that of any other group in the division; but that all groups in a division receive credit for the same quantity of finished product.
7. Each group must be charged with the actual man-hours, elapsed time, expended in the group. The ratio of the standard hours credited to the actual hours worked measures the efficiency of the group.
8. Compute bonus by referring to the table. Each individual in a group will be entitled to bonus dependent on the group average efficiency for the pay period, and in proportion to the number of actual hours worked in the group; viz: the individual's bonus is computed on his wages earned while assigned to the group.
9. Obtain group operation cost as follows: If only one part produced, divide the group wages, including bonus, by the number of pieces credited. If two or more parts, divide the group wages by the total standard hours credited, in order to obtain the cost per standard hour. Then multiply by standard hours for each part.

The cost will be found to be constant (at given base rates) for 100 per cent efficiency or above; and practically constant down to 90 per cent efficiency.

Principles of the Group Plan

The following main principles of operation are associated with this plan:

1. Job tickets or production boards are not required for group work.
2. All work flowing through a division must be entirely covered with standard time for each group.
3. A group cannot be both on standard time and day-work, because there are no job tickets for group work.
4. If an individual is assigned to do work foreign to the group, he must be transferred out of the group to the individual system; and he must obtain a job ticket in order that his time can be distributed and costs computed.
5. All bonus earned by a group is directly absorbed in the cost of operation of the group by being included in the total wages paid.

BONUSES BASED ON SUCCESS OF THE BUSINESS

Where neither the production of the individual nor of the plant can be measured, and the success of the business as a whole determines the bonus, the plan generally provides a bonus of an additional percentage of an employee's salary, varying with the success of the establishment.

The New York National Irving Bank, before its merger, paid employees additional compensation of 25 per cent of actual salaries paid during the year, but few concerns guarantee the percentage of the bonus. In a large western bank, a monthly bonus of 10 per cent is guaranteed, but this is considered a minimum, and additional bonuses, varying in amount, are paid at different times during the year. In 1921, the average bonus paid totalled 25 per cent.

Where the bonus payments depend upon the success of the business as a whole, the practise is to declare the bonus annually, around Christmas time. For example, at Christmas time the Bulkley & Horton Company, of Brooklyn, New York, gives a bonus to all its employees, figured on a percentage (which fluctuates according to the net profits), of the employee's annual salary or commission. The rate has averaged 7 per cent for the past few years. An additional 50 per cent of the base bonus is given for each five years of continuous service.

A bonus may be offered in years when living costs have risen, to effect a temporary raise in salaries. A large wholesale distributor, during 1919 paid a bonus of 10 per cent of salary to all executives and department heads, and 5 per cent to the balance of the employees. This was done, according to the company, "in order to place salaries and wages where they would more nearly meet rising costs of living. The bonus payments did not, however, take the place of salary and wage advances, as these advances were also made in pace with other like institutions. Yet we believe the bonus may have resulted in stabilizing the force to some extent."

When living costs remain high, or scarcity of labor necessitates continuance of the bonus, the scheme is generally changed: the bonus is made a regular part of the salary. For instance, the United States National Bank of Omaha, Nebraska, in 1917 gave a bonus to its employees, based upon 15 per cent of the previous year's total compensation. This plan was eliminated and salaries increased in like proportion. The increase to persons drawing less than $100 per month was larger than to those drawing in excess of that amount.

Where the production bonus requires the setting of standards, the recording of production, and gauging the savings effected, waste eliminated, and so on, the most successful practise is noted where employees have a voice in the establishment and operation of the plan. The experiences of one concern with a production bonus

operated by a joint committee are outlined in the plan of the Easton Furniture Manufacturing Company, given under the section on Economy Bonuses.

A TEACHING BONUS

While a group bonus plan is usually designed to foster a spirit of cooperation among the employees so that a new or backward person will be helped along by his fellow-workers, the Joseph and Feiss Company, Cleveland, has devised a special method of urging the older employees to help the newcomers.

This company pays a bonus to employees for marked helpfulness to new employees. When a new worker comes on, an older operative may be designated as sponsor for that worker. She gets a place next to the new employee, so that she can watch her, encourage her and give her helpful hints which will mean progress. This help is supplementary to the training school.

It is the sponsor's duty to acquaint the girl with her fellow workers and with the methods and activities prevailing at the shop. She may even take time with pay if necessary to be of assistance.

There are three different classes of teaching bonus:

1. A part teaching bonus of $3 is paid when the new operative's output averages 80 per cent of the operation for five consecutive work days.

2. A regular teaching bonus of $5 is given when the operative makes 80 per cent for five consecutive days by or within the time required by her expectancy.

3. A teaching bonus of $3 is awarded when an operative who has reached 80 per cent reaches standard for five consecutive days.

This new plan not only gives an operative a chance to earn as much as $8 for being a sponsor, but also gives her valuable training in the important work of factory instruction.

INDIVIDUAL AND GROUP INCENTIVES COMBINED

The experience of the National Paper Company with a plan covering the individual employee's production led the company to see the advisability of also providing a more general incentive for employees as a group.

The Production Bonus of this company is described in the following statement by a manager of the concern.

Under this plan every machine we have in the house is rated for its production and for all work produced above the rated production of the press, the operator gets a certain percentage, the foreman gets a percentage, and the helper a percentage. The percentage of the foreman of the department is necessarily very small, as the foreman of the department gets his bonus from all the machines in his charge and the operator gets the larger part of the bonus, while the helper gets the smaller share.

We employ approximately eighty-four people and all employees are effected by the plan. All our printers, box makers, printing press feeders, finishers and packers, and everyone working in our manufacturing department is effected.

This particular bonus has been very successful and it has increased our production in these various departments over 33⅓ per cent.

We have decided to adopt another plan based on a question of departments or groups, as we think that the work of the individual in so far as the production of any particular department is concerned, is not as important as the work of the group or crew. In other words a high priced operator working on a machine could have his production cut down 50 per cent by the absence of the helper and as our aim has been to establish a permanent working force, we thought that this group plan might work to better advantage. This plan was instituted in 1919 and a certain percentage of profits is set aside to be paid as a bonus for 1,000 points, which are subdivided as follows, 333 points for efficiency, 333 points for attendance and 333 points for production.

Efficiency is judged solely by the quality of the work going out and errors in work or any other item are to be recorded by the next group or department handling the particular order as it goes through. Departments are charged with points based on the number of errors made during the bonus period, which is three months.

Attendance is based on actual attendance, the various groups or departments being charged with a specific number of points for each absence in that particular department.

Production is based on the rated production of the machines

in department in question, and departments are charged with points where the production is lower than normal and are credited with points where the production is above.

GROUP PRODUCTION BONUS, WITH SET STANDARDS

Two well organized plans for a group production bonus, setting definite production standards for the group, follow.

1. Plan of the Weir Frog Company

The bonus plan of this company was started in August, 1917. Of the one hundred and eighty employees from one hundred and fifty to one hundred and seventy-five are affected by the plan, including office force, laborers, janitors, watchmen, etc.,—excluding only inspectors and executives.

The basis of the plan is the amount of tonnage shipped out of the shop in a month's period. At certain intervals a normal production tonnage for the shop is set, and posted. Then a bonus of 1 per cent of each employee's salary is paid to that employee, for every thirty thousand pounds of material shipped, over this amount. This salary is figured on flat time only, exclusive of overtime. One per cent is deducted for every time an employee is absent a day, and ½ of 1 per cent for every time he is late. This bonus plan is applicable to everyone in the organization, with the exception of the executives, but does not apply when the men are working on piece-work.

In the opinion of O. de G. Vanderbilt, Jr., President of the company, the plan is "unqualifiedly successful, and is the greatest incentive to increasing production we have ever had. The tonnage shipped each day is posted on a board at the end of the shop, together with the normal amount of tonnage that should be shipped up to that period of the month. In this way the men

know every day whether they are running ahead or behind the normal. If they are behind the normal and are unable to make a bonus, the plan of course, is not effective, but if they are running ahead of normal, and see that they can make a bonus, it puts a great amount of energy and cooperation in the shop, and in addition, on account of the penalty for lateness and absenteeism, has served to hold these in check very materially."

2. Plan of a Refrigerator Manufacturer

An incentive to increase production and avoid waste is offered by a manufacturer of refrigerators to its employees, in a weekly "production dividend."

The production dividend plan affects five hundred and fifty employees, about five hundred of them men, and fifty women. The trades and occupations affected are: woodworking, machine hands, cabinetmakers, metal workers, foundry workers, polishing workers, porcelain enamel workers, trimmers, craters, waterhouse men, yard men, office workers.

How Employees Are Informed

In explaining the plan to employees, the company says:

> We believe that a certain share of the product of labor belongs to the workers and that another share must be used for materials, and another share to pay the interest on the plant, insurance, taxes, depreciation, management, non-productive labor, office force, advertising, etc., commonly called overhead expense.
>
> We have opened our books to your committee from the House of Representatives and shown them that labor's share of the product is 24½ per cent (now 25 per cent) and that share we offer to give you—no matter how large the product may be. We will treat the payroll as an advance payment, and pay you the balance the next week—which is as soon as it can be figured out.

To illustrate, suppose the product is	$50,000.00
Your share is 26½ per cent	13,250.00
Now if the payroll is $12,000 there will remain to be added to your wages the following week, 10.4 per cent, viz.	1,250.00

Suppose the product to be.....$60,000.00
your share, viz., 26½ per cent, is 15,900.00
If the payroll is as before 12,000.00
The dividend will be 3,900.00
or 32½ per cent to be added to your wages.
Suppose the product to be $60,000.00
Your share as before 26½ per cent 15,900.00
And by doing the work with fewer men the payroll is. 10,000.00
The dividend would be 5,900.00
or 59 per cent to be added to your wages.

Such a dividend cannot be hoped for as long as there are idlers and inefficient workmen on the payroll.

Now let us look at the other side:

Suppose the product is only $40,000.00
Your share, 26½ per cent, is 10,600.00
If the payroll is **$12,000.00**, the loss is 1,400.00
which must be carried forward and deducted from future dividends.

So you see the matter is entirely in your own hands. It is for your interest to increase the product and at the same time decrease the payroll by getting rid of the idlers. Tell them you would rather have their wages than their company.

If work is slack in your department, and some other department is behind, do not object to being transferred to the department which is behind.

For instance, if we run two thousand five hundred refrigerators one week with five hundred men, and the next week two thousand five hundred refrigerators with four hundred and fifty men, that increases the dividend. Every dollar saved by getting the product out with fewer men goes directly into your pockets.

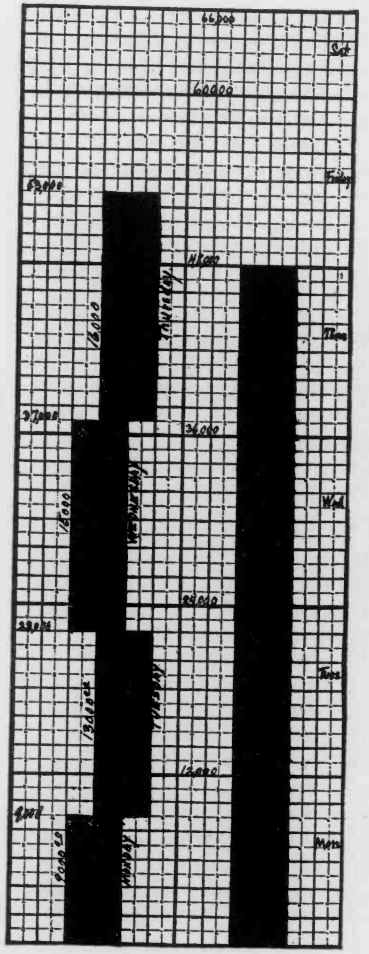
Urge Less Waste and Repairs

But, above all, be careful to turn out perfect goods or you will increase the number of repair men and so decrease your dividends. The company cannot afford to pay for doing the work twice, and so the wages of the repair men are taken out of the dividend before it is declared, and, besides that, poor work will ruin our reputation and business.

One way that a considerable saving can be made is to avoid the costly repair work by making the goods right in the first place, by saving material and in various other ways which you will find out for yourself, such as improvements, which you will be paid for, and short cuts for doing the work. Suggestion blanks for claiming these rewards may be obtained from your shop committee.

The piece-work in some departments and the premium system in others rewards extra work for ambitious individuals, but the profit-sharing system in addition puts the whole factory into one big family—each one working with his head as well as with his hands to decrease the labor cost and increase the product for the good of all."

Left—Actual Production Right—Required Production



Weekly Production Chart

Suppose required production is $66,000. Divide by 11—if you work half days on Saturday, giving $6,000 as the Saturday production and $12,000 for each of the other days. Move the right-hand line up $12,000 each day and the left-hand line as far on the chart as the actual production takes it. Jog the left-hand line to make each day's work stand out by itself.

How Labor's Share is Determined

The company determines "labor's share" by taking the total production for the last six months, and the total payroll for the last six months, and figuring what percentage the payroll is to the product. This is explained to a committee from the employees' House of Representatives, under a pledge of secrecy, and they are told that the same percentage belongs to them, no matter what the product may be.

"Labor's share," which was 26 per cent two years ago, 22 per cent last year, is now 25 per cent. These variations are caused by the different costs of materials.

BONUS FOR INDIVIDUAL PRODUCTION

Among the plans providing a production bonus for the individual employee, according to a standard set for him, the following are instructive.

Lakewood Engineering Company

Under the plan of the Lakewood Engineering Company, Cleveland, a specified number of pieces or a certain amount of production is used as a basis for a regular day's work. Over and above this amount of work, the company pays the worker 50 per cent of the time allotted to the job at the worker's regular day-rate.

A sum equal to the total amount of bonus paid to the worker is then set aside each day and each month is distributed prorata among all the employees of the factory. All men who work on an hourly basis are eligible for the monthly bonus as follows:

A new employee does not share in the disbursement of any monthly bonus until the third month of his employment with the company.

If an employee is absent from work three days during the month he receives only one-half of one share of

bonus; if he is absent five or more days, he forfeits all right to any share of bonus for that month, unless he is injured in the plant, or is sick. A doctor's certificate must be furnished as proof of illness.

A man who is discharged or leaves the employ of the company at any time during the month forfeits all right to the bonus for that month.

Bonuses are issued in separate checks on the 20th or the second regular payday of the following month.

2. The Brown Hoisting Machinery Company

The Brown Hoisting Machinery Company, Cleveland, has a plan whereby a standard time is fixed for each operation and in case a man can do the work in less than this standard time, or in other words, turn out more work in a given time, payment is made for this additional work at the standard-rate and this additional pay is divided between the worker himself and his foreman, 75 per cent of it going to the worker and 25 per cent to the foreman. This additional pay or premium goes to the men at each pay period but in a separate envelope from that used for his regular pay. The company points out that in establishing a plan it is important that the whole plan be clearly understood by the workmen as well as by the foremen before it is put into operation, and that they be kept fully informed at all times as to its operation. The right standards must of course be set in the first place.

3. The Embry Box Company

The plan of the Embry Box Company, Louisville, Kentucky, is based on the hourly production per man. The plan was established by taking the production figures for twelve months and finding the unit of production per hour per man. It was found that an average of finished

product was twenty feet per man-hour. Using this as a basis the company gave the men the full benefit of any percentage of increase in production. For example, if twenty-five feet per man-hour was the average for a week the men received a 25 per cent bonus for that week, etc.

4. Excelsior Knitting Mills

The Excelsior Knitting Mills which employs two hundred and seventy-five has the following plan. A percentage of the total earnings of employees who do knitting, looping, or pressing is paid to them if their production equals or exceeds a set task. This bonus is added to the earnings and is paid weekly. The percentages are as follows: knitting, 25 per cent, looping, 15 per cent, pressing, 10 per cent.

ADAPTING THE PLAN TO VARIOUS DEPARTMENTS [1]

[In an account of the bonus and piece-work system in effect at the Burke & James, Inc. Chicago plants, the installation of the plan is discussed with respect to three departments, viz.; the wood working, machine and camera assembly, and the box and folding camera plant.]

Bonus in the Woodworking Department

The wood-working department presented a problem which lent itself most readily to the adaptation of the bonus system. The grade of workmen required varies from intelligent girl machine operators to highly skilled cabinet makers and wood finishers. Because of this, hourly-rates cannot be kept standard, and it was decided to install the bonus system.

Briefly, the bonus system is as follows: A standard

[1] By William F. Ellison. 100%. p. 90-4. April, 1920.

time is allowed an operator for completing a certain operation; if the operation is completed in the standard time, he is rated as a 100 per cent operator and receives his hourly-rate. If he completes it in a time greater than the standard time, his rating falls below 100 per cent, but he still receives his hourly-rate.

If he completes it in a shorter time than the standard, his rating goes above 100 per cent and he receives 50 per cent of all time that he saves on the operation. The rates are so set that a good, honest workman need never fear that he will fall below 100 per cent efficiency.

Great care had to be taken the first few weeks in order to win the men over to the new system. Operators had to be taught how to do their work rapidly and efficiently. Especial emphasis was placed on the high quality of workmanship required, and great care had to be taken to see that the operators did not spoil any work in order to earn a bonus.

The limits worked to are considerably closer than in the average wood working shop, and this made it all the more imperative to establish correct bonus rates.

The operators have access to the bonus rates, and when a new operation is started the operator is given standard time in which he is to do the work. If, for some reason, the work cannot be done in the time specified, the rate department is notified and a temporary rate is given on the work.

For the first few months the average efficiency of this department was 113 per cent but today it is 156 per cent, and there have been no material changes in the rates.

A policy has been adopted that after a bonus rate has been set fairly and honestly it will not be reduced unless a new labor saving device is installed by the company. This has built up a good spirit among the operators.

All complaints about rates or earnings are investigated immediately and nothing is kept back from the

operator. No man is compelled to work on bonus and this very fact has brought about that every man in this department is today working on bonus and no one wants to work on day-work.

Camera Assembly Departments

The camera assembly department presented a different problem. The leather assembly is done by women and the hourly-rates are standard. The box and folding camera assembly is practically all done by men and the hourly-rates are standard. A revised piece-rate system was the logical system for this department. The leather assembly lent itself most readily to piece-work, because the work was of more uniform grade and not too complicated for women operators.

The folding camera assembly presented the most difficult problem, because of the high degree of skill required to assemble the cameras properly. It takes a long time to train workmen to turn out cameras of high quality, and it is an established rule that the high quality must be maintained and the piece-rates must be set in accordance with this standard.

The revised piece-rates are so set that an average skilled workman can earn a good wage and there are no complaints against the rates.

If an operator possibly can, he will work on piece-work; if there is no piece-rate on an operation he will make sure to ask his foreman to get in touch with the piece-rates department, so that rates may be set.

The gang chiefs in this department receive a bonus on the output of the operators in their respective groups, and this encourages them to keep the work moving at all times.

The machine department has also been placed on a revised piece-work basis. Men and women operators

receive the same hourly-wage, and the piece-work earnings are the same.

TASK AND BONUS PLANS IN CHICAGO PRINTING PLANTS [1]

Task and bonus schemes of wage payment involve the application of scientific management principles to all operations in a plant. In the use of those principles many variations have been developed. Mr. Harrington Emerson's plan of efficiency reward may be cited as one variation.

This plan of payment is based on individual efficiency, giving a reward additional to wages for certain results.[2] Its essential features are:

1. A guaranteed hourly-rate.
2. A lower limit of efficiency, which, if not attained, indicates that the worker is a misfit and requires either special training or change of occupation.
3. A progressive efficiency reward, beginning at a requirement so low that it is inexcusable not to average it.
4. An efficiency standard established after careful and reliable investigation of many kinds, including time and motion studies.
5. For work to be performed, a time standard that is joyful and exhilarating, therefore intermediate between depressing slowness and exhausting effort.
6. A variation in standard for the same work for different machines, conditions and individuals, the schedules therefore being individual.
7. The determination for each worker of an average efficiency for all jobs over a long period.

[1] By F. E. Wolfe. Department of Industrial Relations. Typothetae Bulletin. p. 5-7. January, 1921.

[2] Harrington Emerson. Twelve Principles of Efficiency. p. 363-4.

8. A continuous correction of time standards and of wage-rates to suit new conditions. This is essential and inevitable. Wage-rates rise if under the new conditions, more skill or greater effort is required. Time standards have nothing to do with wages. They are not changed to affect earnings either one way or the other, but to be accurate and just. The time standard for covering a mile is less for a man on a bicycle than for a man on foot, inevitably less for a man on a motor cycle than for a man on a bicycle.
9. The worker must have the personal option of working not to a standard time, but between limits on each side of the standard time. If he does not consider standard time fair, he can take his assumed hourly-rate and show lower efficiency, which greatly enhances the cost to the employer, whose self interest has been so to improve physical or psychical conditions as to induce the worker to attain standards.

This last principle is illustrated by Kimball in Principles of Industrial Organization (1913) p. 188-9, and is quoted here for reference.

To make this method clear, suppose, that a job is standardized at 120 hours. If the workman performs the task in 120 hours his efficiency is said to be 100 per cent. If he takes 240 hours his efficiency is 50 per cent. If he takes only 100 hours his efficiency is 120 per cent and so on. No bonus is paid the worker unless efficiency reaches 66⅔ per cent, but he receives only his day's pay. At this point he receives a very small bonus, but the bonus increases as his performance rises, till at 100 per cent efficiency he receives 20 per cent of his day's wage as a bonus. For greater performance greater bonuses are paid, till at 140 per cent efficiency the worker receives 60 per cent of his wages as a bonus.

In the practical operation of this method by Mr. Emerson the bonus is calculated monthly and not for individual jobs. Thus, if a man's wages are $0.30 per hour, and if during a given month he has worked 240 hours, doing in that time jobs whose total standard times have been set at 210 hours, his efficiency is 210/240=87.5. His wages are $72, his bonus (See Table) is 7.94 per cent of his wages, or $5.72, and his earnings $77.72. The advantage of this monthly award is that it tends to make the worker desirous of making a bonus on *every* job

since the averaging of a number of performances, with a few good ones would, in all probability, mean the loss of any bonus that he may have earned on these good performances.

TABLE OF EMERSON BONUS RATES

Efficiency per cent	Bonus per $1.00 wages	Efficiency per cent	Bonus per $1.00 wages
67	0.0001	88	0.0832
68	0.0004	89	0.0911
69	0.0011	90	0.0991
70	0.0022	91	0.1074
71	0.0037	92	0.1162
72	0.0055	93	0.1256
73	0.0076	94	0.1352
74	0.0102	95	0.1453
75	0.0131	96	0.1557
76	0.0164	97	0.1662
77	0.0199	98	0.1770
78	0.0238	99	0.1881
79	0.0288	100	0.20
80	0.0327	101	0.21
81	0.0378	102	0.22
82	0.0433	103	0.23
83	0.0492	105	0.25
84	0.0553	110	0.30
85	0.0617	120	0.40
86	0.0684	130	0.50
87	0.0756	135	0.55
87.5	0.0794	140	0.60

TASK AND BONUS IN SEVEN PLANTS

Of one hundred and thirty-eight plants investigated in Chicago seven were found which use the task and bonus method of wage payment in one or more mechanical departments. Certain main facts about the seven schemes are presented here. Of the seven plants two operate all mechanical departments on the task and bonus method; one uses it in all except the composing department, which is now being studied for its installation; one linotype composition concern was using it; and three other plants are using it for certain work in the press room or in the bindery.

The class of work in which tasks have been standardized for performance within certain time limits varies

in the different plants and departments from gathering or stringing in the bindery to difficult composition and make-ready jobs. It should be noted that task and bonus schemes are completely established in all departments only in relatively large-scale plants. The expense of installation and the volume of work performed in them make it possible and profitable to subdivide all grades of work for performance by specialists, giving the workmen specialized processes to perform.[1]

Of the 3,325 total employees in the seven plants approximately 2,623 or 78.8 per cent are engaged on the task and bonus basis.

Individual or Group Bonus

1. The efficiency rate of the individual may be used to determine his bonus. The rate of efficiency is determined by the relation of actual to standard time. For example, an ad job for the composing room is studied and a standard time of 1.8 hours allowed for its performance. The actual time consumed is 2.1 hours.

$$\frac{\text{Standard Time}}{\text{Actual Time}} \times 100 = \text{efficiency rate.}$$

$1.8/2.1 \times 100 = 85.7\%$, the efficiency rate.

The bonus on the hourly-rate begins in general in Plant No. 1 with 75 per cent efficiency. The bonus varies more or less arbitrarily for different rates of efficiency, and at 100 per cent efficiency amounts to 20 per cent of the hourly-wages.

Time studies have also been made and standard shop conditions provided in Plant No. 2 in order to set the time limits for doing work in the most efficient and remunerative manner. Bonuses of 35 per cent, 25 per cent, and 10 per cent on the hourly-rate are paid for certain amounts of work if performed respectively in A, B or C standard times.

[1] It is roughly estimated that approximately $150,000 has been invested in the installation and developing of the bonus system in one plant.

In each of the Plants, Nos. 4, 5, 6 and 7, a fixed rate of bonus of a certain amount in addition to time-wages is paid for each thousand units of work performed in excess of a stated task.

2. A collective bonus may be used, as in Plant No. 3, where an additional percentage of wages is paid monthly on increased production in a part of the shop or in the shop as a whole. A standard monthly operation for the printing machines in this plant is fixed at one hundred and fifty machine-hours. (There are seventeen automatic machines in the plant.) A bonus of $6 per machine is paid to all shop employees for each machine-hour operated or gained in excess of one hundred and fifty hours a month. The total sum of the $6 bonus payments is prorated among individuals on the basis of their wages.[1] In addition, a special bonus of $1 is paid to the pressman and his two assistants attending a machine for every machine-hour gained in the month. One-half of this bonus goes to the pressman and one-quarter to each of his assistants.

Deductions From Bonus and not From Wages

Slow and inefficient performances on task work reduce in any case the possible amount of bonus. In Plants Nos. 1 and 2 any deductions for spoilage or inferior quality of work are made from the bonus and not from wages. If a spoilage occurs and the bonus of the responsible person is taken away, any balance of a deduction is never carried over to the next week or the next month.

Increases are estimated to have been realized in the output under the task and bonus schemes, ranging from 17 per cent to 50 per cent in three plants. The management of the companies in all plants were wholly

[1] To calculate an employee's share of the collective bonus, multiply his weekly-wages by number of days at work in the month to get the number of points assigned the employee. Divide the sum total of the points of all employees into the total amount of extra compensation to be paid, and multiply by the individual employee's number of points. The result will be his share.

convinced that production was greater than it would have been under the old methods.

Opposition of Workmen

Of the seven plants operating mechanical departments in whole or in part on a task and bonus basis; it will be observed, four are non-union or open shops, and three are union. The three plants where task and bonus are used in a comprehensive form are non-union. This is on account of the inveterate hostility of organized labor to task work schemes as hitherto operated. In one union shop certain operations continue as task and bonus work without active union opposition, because for many years those operations have been so conducted. In another union shop where a bonus on output was offered and paid for a time during the past year, union opposition resulted in its discontinuance. In two other union plants certain operations in the bindery are task and bonus work. The union in these cases does not favor the method, but for strategic reasons has not yet made its opposition the occasion for a clash and a final adjustment. Some of the union shop employers reported that they were restrained from installing in their plants a complete task and bonus system by union opposition.

The Endorsement of Experience

What does the experience of seven Chicago printing plants with the task and bonus method of work and wages payment show?

1. Of seven plants, two operate all mechanical departments on the task and bonus method, and another operates all departments except one where time-studies are in progress preparatory to its introduction there.

2. One concern was discontinuing its use because union employees were required by union regulations to refuse task and bonus payments. Any employer adopting a production bonus would encounter the strongest antagonism of union labor.

3. Three other plants are using task work and bonus payments only to a limited extent in the press room or in the bindery. In the strict sense, these plants as a whole operate on the straight wages system.

4. Relatively large-scale plants are best adapted for the successful introduction of a task and bonus scheme. Reasons for this are: (a) large volume of business with resulting possible subdivisions of the work of the trade into simpler processes; (b) heavy capital investment necessary; and (c) greater strength to withstand union opposition.

5. The employers, whether open, non-union or union shop, are unanimous in reporting that production per employee is greater when employees are on task and bonus work.

6. Some union employers felt the restraint of union opposition and were prevented by it from extending the bonus scheme throughout their plants.

General Conclusions

1. Task and bonus schemes bring with them possibilities of enormous increase in productive efficiency.

2. Emphasis upon knowledge of facts as to efficient plant organization and upon measurement of actual work accomplished by each man as a basis for wages suggests the value of a concrete method of approach to all other aspects of industrial problems. Among these other aspects about which facts should be gathered are the effects of task work upon the longevity, health, absenteeism and regularity of employment of the workers.

3. Efficiency bonus schemes as administered heretofore are defective because arbitrary judgment is depended upon to decide whether bonus payments shall begin in a particular plant at 66⅔ per cent, 75 or other per cent of a standard time performance, what the rates of bonus as well as the standard time limits themselves shall be, and what, if-any, penalties and deductions should be

imposed for spoilage and inferior work. However well-intentioned the management of a plant may be, the power thus to set time limits for efficient work and to alter them as conditions change may be easily misused in actual operation by subordinates so as to undermine the morale of the working force.

4. Any bonus scheme under which it is impossible for the workmen to understand how to calculate their individual bonuses each week is a source of mistrust, discontent and complaint. These conditions invariably tend to produce an excessive labor turnover.

5. The contention of organized labor that task and bonus work is a "driving," "nerve racking," "speeding up," "sweat-shop" scheme for keeping wages low and increasing the employer's profits is mentioned here only for what it is really worth. Complete facts and proof to the contrary are the best means of refuting exaggerated charges at this point. Educational measures may also be used to overcome uninformed opposition and prejudice against sound methods of improving individual efficiency.

BONUS FOR TYPISTS [1]

Briefly stated, this is a bonus payment plan based on an actual quantity and quality measurement of work done.

When we decided to try out some such plan in one of our departments, we thought it best to prepare the ground thoroughly. We did not want to waste effort, time, and money in too much experimenting, and so we went at the problem with a view to preparing everything that might affect its successful carrying out under the most favorable conditions.

Why We Felt We Must First Standardize

We realized early, that before installing bonus systems based on comparative amounts of work for groups

[1] By H. O. Kent. Montgomery, Ward & Co., Chicago. System. June, 1918. p. 898-900.

of workers similarly employed, it would be necessary to standardize as far as possible all equipment, details, and methods before a fairly apportioned task could be set for any given length of time.

The first thing for us to go after, then, was the physical arrangement of the desks and chairs of the operators. These with us were already quite satisfactory. A table had been standardized which occupies the least floor space consistent with adequate provision for working materials, while the standard chair is one on which the height of the seat, height of the back support, and the angle between the seat and the back can be regulated. The back is pushed forward by a spring and thereby offers support to one sitting erect. When this chair is used with the foot bar, which we also think is necessary for ease and speed in working, the operator can keep a correct position with comfort throughout the day.

Detachable racks and cabinets suitable to the particular kind of work for which they are used have been designed and are being installed as rapidly as possible; later on, therefore, we hope to be able to show even better results than those we are telling about in this article.

How We Help the Workers Increase Their Output

We also taught the stenographers, typists, and operators how they could most economically handle their stationery to consume the least possible time in placing it in the machines. We reasoned that haphazard ways of performing these operations would be a source of considerable variation—in the long run—in the operator's bonus; but if she were taught the easiest and quickest way in which to make each movement, she would in the end be able to accomplish just so much more.

Here, for instance, are a few directions from the set of instructions worked out—each of them is now fully explained to the new worker:

When you make your pick-up of letterhead and manila paper, reach over to the cabinet but once and bring away all papers with the left hand. While picking up these papers in the left hand take up the carbons in the right hand and bring all papers together at the left of the machine. Place the carbons as nearly in the correct position as you can with one movement of the hand for each carbon.

Place envelops in the pigeonhole face up and flaps turned away from the machine, turn the wrist as you carry them to the typewriter, and they will be in the proper position to insert.

Tie your eraser to the typewriter on the side of the stronger hand. Three or four rubber bands linked together are better than a string.

The last rule, though perhaps a seeming trifle, becomes really quite significant when you multiply the time consumed in the search for the eraser by the number of times a day the search is made and by the number of girls. A low estimate is one erasure for each letter one-sixth of a minute to find the eraser each time, one hundred letters a day, or an actual loss of about fifteen minutes a day for each worker for this simple cause.

It was our desire to base payment as nearly as possible on the actual output of the persons affected, and so the foundation of the system had to be an accurate method of measuring the output. The square-inch method of measurement—that which measures areas of typewritten matter—we found would not give the accuracy we required. One of its deficiencies, for example, is that it does not make allowances, without extra figuring, for paragraph spacing, which varies considerably with different correspondents. One operator, transcribing the letters of a man given to frequent paragraphing, could gain an undeserved increase in bonus over other operators.

Therefore we made our unit of measurement the line, with a standard length of six inches. The margin bell was set to ring just before the full length of the line had been reached by the girl.

Our Plan for Measuring Each Worker's Production

For measuring letter length all that was needed, then,

was a scale which would give us the number of full-length lines. Two scales, transparent celluloid rectangles six and one-half inches wide and nine and one-half inches long, were worked out to take care of the different spacing between the lines on the two makes of typewriters we had standardized on. The vertical lines at the right are to guide the measurer in seeing at a glance that the standard length line is written.

The work is measured by observing the total number of lines in the body of a letter as shown by this scale and noting on the record sheet with the number of paragraphs. There is a double spacing between paragraphs and under the law of averages we find that the average of the end lines for the day equals a half line. Therefore the equivalent of one and one-half lines for each paragraph in the letter is deducted from the total number of lines.

There are also a number of what we call "recurring factors" in each letter, such as the time to take up and insert the paper in the machine and to type the name, address, date, salutation, closing, and the initials of the correspondent and typist. By time study these were determined in this particular division to be the equivalent of five line-units. This varies slightly in different departments according to the nature of the work. At the end of the day the number of line units of work accomplished by each operator is obtained by the total number of lines measured, less one and one-half times each paragraph, plus five times the number of letters written. Special allowances are also made for special kinds of work.

So much for the plans that have to do with the actual computation of output. Our next consideration was the reward. Careful time studies showed that an output of one hundred and fifty lines an hour was a fair task. By this is meant that a reasonably good operator can produce under standard conditions and without undue effort for a period of eight or nine hours a day this amount of work, and that she can increase this amount

by at least 100 per cent as she becomes more proficient in her work and more nearly an expert operator.

The proper salary to pay for this standard output was determined by an analysis of comparative wages on similar work in other industries, as it is our desire always to pay at least a little better than the market demands with the bonus earnings as an entirely supplemental reward.

Making the Rates Fair for Everybody

In addition to experienced operators, we employ beginners who have just graduated from school and others with but little experience. To give all of them the proper incentive to improve their work, the scale was graded several steps below the standard, so that these beginners would still have the incentive of the bonus.

Figuring from the standard we determined ninety lines an hour as the proper output for a beginner and graded the output for each $1 increase in salary as is shown by the scale below. "X" is used to indicate the beginner's salary and "Y," which is $6 a week more, is the standard salary:

How "Labor's Share" Is Determined

Over 150 lines an hour	$Y	and bonus
Over 140 lines an hour	$(X + 5)	and bonus
Over 130 lines an hour	$(X + 4)	and bonus
Over 120 lines an hour	$(X + 3)	and bonus
Over 110 lines an hour	$(X + 2)	and bonus
Over 100 lines an hour	$(X + 1)	and bonus
Over 90 lines an hour	$X	and bonus

The fact that the salaries can be indicated by symbols shows the flexibility of the system. As the standard output was scientifically determined at one hundred and fifty lines an hour it remains constant, but the values of X and Y can be and are being increased to amounts consistent with general labor conditions.

Now, just what does this scale of wages mean in actual practice? It means that when we employ a young woman at the standard salary we expect her to be able

to get out one hundred and fifty lines of typewritten copy an hour for forty hours each week. She may be able to produce that much, and again she may not. But her weekly record as it is reported by the measurers will soon show us her comparative value.

And that I consider as one of the chief advantages of the installation. For we never cut down the salary even if the worker is employed for much more than she really earns. But when slack periods come or changes make it necessary to redistribute workers, we can lay off or put at other work girls who are not earning their salaries. This eliminates the guesswork which is really the chief cause of "firing" in so many offices.

This weekly record is also the basis for promotion of those who deserve it to secretarial and other better positions, and thus further rewards for loyalty and length of service.

Of course, accuracy in letter writing as in any other work is of more importance than speed. So we graduated the payment for output in such a way that a worker will make more for accurate and neat work at less speed than she will for a greater amount of work marred by mistakes.

Therefore we established the following rates of payment—for the excess over the regular salary—for stenographers and dictating machine operators:

10 cents for 70 lines—
rate of payments if no errors are made in a day
10 cents for 100 lines—
rate of payment if 1 error is made in a day
10 cents for 120 lines—
rate of payment if 2 errors are made in a day
10 cents for 150 lines—
rate of payment if 3 to 5 errors are made in a day
No bonus is paid if more than 5 errors are made.

The scale is based on our rule of paying at least 51 per cent of the savings over the required output to the worker. In this instance it is considerably more for perfect work.

BONUS REPORT FOR WEEK ENDING MARCH 9

Name	Activity	Hours Worked	Rate per Hour	Units Produced	Units Task	Excess	Bonus	Total Errors	Basic Rate
Vering	Operator	33.76	274.3	9262	5064	4198	5.67	1	150
Kavanaugh	"	40.17	163.5	8038	6884	1154	1.79	0	140
Diestlow	"	28.99	157.9	4579	2899	1680	2.40	0	100
Resch	"	38.78	155.6	6034	5429	605	.88	2	140
Olund	"	39.74	153.2	6088	5564	524	.75	0	140
Mullins	"	44.51	126.4	5626	5786	-160	-.23	0	130
Sheehan	"	48.75	120.9	5898	5850	48	.07	0	120
Wintz	Typist	20.92	193.6	4050	3138	912	.80	6	130
VanDorn	"	42.01	157.6	6620	5707	823	.70	5	138
Baron	"	30.34	126.2	3831	3702	38	.04	7	125
Friemel	"	30.26	111.2	4363	4436	- 73	.05	8	113
Stepanek	"	42.00	106.3	4464	5796	-1332	-1.33	5	138
Landy	"	45.50	94.6	4306	5142	-836	- .84	11	113

This sheet is the weekly bonus and production record of one group of stenographers and typists. A report similar to this is made every week, and shows the manager the exact amount of work done by each operator, and the number of errors. It indicates also how each compares in value with all the other girls in her department.

The scale of wages and rates of payment for typists are slightly lower than these tables, because of the nature of the work; but typists are promoted as soon as they are qualified, which gives them an incentive to learn the other classes of work. It may seem, too, that the dictating machine operators have an advantage over the stenographers in that they need to take no time off for dictation. The disadvantage—quantitatively measurable as a loss of approximately one-fourth of their bonus-earning time—is more than offset, we think, in the greater chance the stenographer has over the operator of passing into other work, such as that of a private secretary.

A count of the errors in each day's work is turned in by the correspondents to the supervisors, who also keep a record of each girl's time so that her bonus will be figured only on the time she has actually spent in typing. This eliminates any chance that her bonus earnings will be unfairly reduced by necessary interruptions for taking dictation, for special work, or for some other cause.

Each batch of letters goes to the measurers, who record simply the number of lines and paragraphs, with the girl's time-clock number. From the two records, the error count and the output totals, the bonus is worked out at the end of each week.

This bonus plan has proved more valuable even than we had hoped. It has cut typing costs in the department in which it was worked out—we are now gradually installing it on other general typing activities—by about 25 per cent. The addition of two girls and part of the time of a third for measuring and figuring bonus for nearly one hundred workers is only about 3 per cent of the payroll of the department. Output as a whole has increased 50 per cent.

Best of all, perhaps, we have a reliable record of what the individual workers can really do. We can pick out those who are worth their wages to us and those who are not—not a negligible advantage at a time when it

behooves us all, in whatever business we are, to make the most of labor and time.

What We Have to Consider in Grading Workers

It is seen that under this method the lowest-salaried workers are not necessarily the least valuable. They may be earning their pay and the higher-paid girl—who has been employed on her past record of experience and salary—may fall far short of hers. The only criterion to consider, then, is whether the output (quality and quantity) is commensurate with the salary. In employing new workers, we engage the best available, paying according to previous experience and past earnings.

We have now considered the advantages to the company, but the fact must not be overlooked that the workers have also greatly profited by increased guaranteed wages and additional bonus earnings. Some individuals have gone much farther than the average, in some instances getting out up to 100 per cent more work than before this system was adopted.

This increase is due, undoubtedly, to the fact that salaries rise just as fast as output consistently grows. A girl who for three successive weeks adds ten extra lines an hour to her wage standard automatically passes into the next higher group, receiving an additional dollar a week in salary. Her bonus earnings are then, of course, figured on the excess output above the output standard corresponding to her new wage.

One girl's record illustrates the possibilities for the worker. About a year ago this girl came to us as a beginner typist just out of school. About eight months ago she was placed on bonus to start at the same salary. She immediately began increasing her output and raised her salary every few weeks, until she is now receiving as a dictating machine operator $7 a week more than her starting salary and in addition a $2 or larger bonus

regularly each week. Some of our other operators are regularly earning $5 to $6 weekly besides the maximum guaranteed wage; they have besides, of course, advancement to other work to look forward to.

BONUS SYSTEM IN FORGE SHOP[1]

The shell forging plant of the Hydraulic Pressed Steel Co., Cleveland, consisted of five complete units, which were named *A, B, C, D* and *E*. The men were paid an hourly-rate plus a bonus for increased output based on the plant as a whole. At the start, production was only moderate, the men being satisfied to pool their earnings with the other units. It was soon noticed, however that *A* unit worked more smoothly than the others, although *B* unit was equaling its production. Considerable rivalry sprung up between the two as to which could produce the most forgings. Meanwhile the rest of the units were struggling along with only fair or indifferent results. One night a workman on *D* unit shouted to his helper, "We should worry, *A* and *B* are going fine, why should we kill ourselves?" An analysis showed that *A* and *B* had been getting less earnings than they were justly entitled to and the others were getting more than their share. Each unit was put on its own merits. Production did not jump immediately, as it took several weeks to weed out the laggards, but within a reasonable time the number of forgings turned out in that plant more than doubled.

The Hydraulic Pressed Steel Co. has an interesting method of paying these men. There were twenty-one men, who worked for a base-rate of 35 cents per hour. The more skilled, who were called No. 1 men, worked for a base-rate of 35 cents per hour and

[1] From a paper presented at a meeting of the Industrial Association of Cleveland, by George C. Brainard, General Manager, Hydraulic Pressed Steel Company, Cleveland. Iron Trade Review. p. 247. July 22, 1920.

the other at 30 cents per hour. As a day's work of eight hours, a rate of three hundred forgings was established and it was possible to make them in an hour if everything worked smoothly. For all over three hundred forgings 6 cents was paid, which was equally divided among the twenty-one men, and they averaged between $8 and $10 per day. The reason for the low hourly-rate was that breakdowns and tool changes occurred frequently, causing shut-downs from fifteen to twenty minutes to several hours, but no matter what time during the shift a breakdown occurred their one idea was to get it going again to make the bonus.

A similar scheme was applied to an assembly proposition in the frame shop. Originally there were thirty-three men in the unit, and a rate was set. Production ran along smoothly. One day one of the men asked if the rate would stand if of their volition they cut down the number of men on the unit. After being assured that it would be maintained, men were gradually eliminated from that unit until only twenty-three were left. They very materially increased their wages and there was no expensive turnover. The company gained by reducing the percentage of overhead and the men made more money. These men became very expert on particular operations and materially increased production over the previous records set by thirty-three men. The writer is thoroughly convinced that the job of every man in the plant must be measured and a normal output determined for it. Then employers must pay extra to the individuals for all work over normal. If an incentive of some kind over and above an hourly-rate is not furnished the highest possible production cannot be expected from them.

Explains Point System

The idea of the point system is briefly this: First the normal standard is determined for every operation, this normal being equivalent to the time required by a normal

man under normal conditions to perform a given operation. Every man of the same degree of skill has the same basic-rate so that all are on an equal plane, that of the same base-rate of production measured by the same normal standards. All production over normal is then paid for in direct relation to the man's rate per hour, giving extra pay in direct proportion to extra results.

This extra pay is divided 75 per cent to the man, and 25 per cent to supervision, as both are paid normal rates for normal production and both must cooperate to produce more than normal. Since it is the management's responsibility to furnish men with work at all times, any failure to do this, is allowed the man at his normal productive rate per hour. He then has the protection, first, of his basic-rate per day; second, of guaranteed standards, and third, being assured by management that it will assume responsibility for its failure to provide him opportunity. Thus his earnings are always in direct relation to his efforts.

Importance of Cost Keeping

The cost of any manufactured product may be subdivided under material, productive labor and overhead. A factory cost accounting department usually confines its efforts to accurately finding and recording the cost of material, productive labor and such overhead as may specifically apply to plant operation. This information is then transferred to the general accounting department where records of all other expense under overhead are kept and the difference between the cost as determined by them and the sales price means profit or loss.

Systems for quickly bringing accurate information to the attention of the factory or production managers are necessary. The degree to which prompt and efficient attention is given to known running costs, checked against previously estimated costs, measures the difference between profitable and unprofitable production.

Every effort should be made to know as much as possible of the daily standing and cost of each job in the plant, plus as much as possible of the general operating cost. It does not do anyone any good to know on the twentieth of next month that a certain job completed the first two weeks of the month entailed a loss. It is too late to do anything about it. We must get right down to a basis of knowing about production costs daily. Plants operating on piece-work or standards largely predetermine shop costs. However, in many cases minimum day-rates are guaranteed and costs have to be figured on all jobs which fall below standard. The list of below-standard jobs shows immediately where attention is needed in the factory.

Cost finding is one of the most important functions in any manufacturing business. In many plants it is looked upon by the operating force as a necessary evil. Perhaps this is due to the fact that boys are used who cannot realize the importance of doing their work accurately, while the value of any cost accounting department depends almost entirely on how accurately and how quickly it secures and tabulates detail shop information into usable form. Men must be trained to understand the responsibility of their jobs. After factory data is collected three kinds of records are necessary: First, daily reports to the factory or production manager; second, permanent records of costs by jobs for future estimating purposes, and third, general operating costs for purposes of periodic comparison and for use in keeping the general books of account.

It is advisable to have the cost accounting department closely harmonize with the general accounting department. One of the most useful figures in business, particularly for purposes of comparison, is the sales dollar. By resolving each dollar of sales back into its elements—so many cents for material, so many cents for overhead and so many cents profit—the simplest kind of figures to work with are found.

THE BONUS SYSTEM APPLIED TO MINING[1]

Several articles have appeared lately in various technical publications, dealing with the bonus or contract system as applied to underground labor, but in all this mass of information and opinions there is one important consideration that has not been dwelt upon. In mining work the Blue Bell mine is trying to adopt a bonus system, which works out with excellent results in a shop where the piece-work system is successful and where it is possible to limit the operations and movements necessary to do a certain job; but when attempt is made to adopt the method underground, it often fails miserably, which is due to the many variations in the character of the work.

Occasionally there are certain classes of work which can be placed on a definite bonus system and which will work out satisfactorily both for enployee and the employer—such work as shoveling in a large stope where there is a constant supply of broken ore, or in tramming ore or waste on a level where the operation is definite and the supply more or less regular. Also certain classes of work, such as drilling in a large stope where the conditions from day to day do not vary too greatly, or in driving a drift or crosscut where the ground is uniform in character.

Delay in Computing Bonus Breeds Dissatisfaction

When such conditions are constant enough one is able to estimate a certain task for a day's work, and any unit of work above this task can be used as a unit for a bonus to the workman concerned. The amount to be paid is generally determined at the end of two weeks or a month, as the case may be, and at the end of that period the company engineer measures up the particular working place and calculates what the daily output has

[1] By W. V. De Camp, Mine Superintendent, Blue Bell Mine, Mayer, Arizona. Engineering and Mining Journal. 105 : 461-2. March 9, 1918.

been; after which a bonus notice is posted to the effect that John Doe has earned a bonus for the period of a certain amount per day. John Doe, on seeing this notice, if he happens to think he has earned more than is stated, is inclined to be peeved, and decides in his own mind that the system is a fake and designed for the company alone; that he will get paid only a certain amount anyhow. As a result he ceases to put forth any effort toward earning a bonus, and since he waits fifteen or thirty days to find out what his earnings were, he is likely to slow down to a leisurely pace and forget about the bonus.

The above statement is made from observation during many years of effort to institute a bonus system for general mining work that will be satisfactory both to the employee and the employer, and carries a full realization of the many difficulties to be expected. As a result of this experience the conclusions I have reached are that the principal fault lies with the employer, in that he does not give his bonus system sufficient supervision; and both close supervision and a daily check on results are necessary to success.

For the average miner or laborer working under a bonus system it is not sufficient to know the results of his labor every fifteen or thirty days. He should know positively at the end of every working day, or before he goes to work the next shift, what he has earned. This is not a new idea by any means, but it is a psychological fact that whatever one succeeds in impressing most forcibly on an individual's mind will eventually become his most marked point of view. To apply this to mining close supervision is essential, and it becomes necessary to reduce the number of men working under each boss or, what I consider much more satisfactory, to employ a separate checker to handle bonus details for from thirty to forty men. This man can be directly under the shift boss, but gets his bonus rates from the mine office, as determined for the various working faces, and is directly

responsible to the office for the results of his work. He should be supplied with record cards showing the working place of every man and should detail on these the class of work and the amount of bonus earned by each. The card records can then be summarized daily, and a notice posted to the effect that certain men have or have not made a bonus. It is just as essential that the bonus earners be posted as it is for those that have earned none. By posting the notices daily every man is made acquainted with the earnings of himself and others.

The bonus idea should thus be kept alive in the minds of the men, and if any question arises it can be brought up and settled at once. The miner working in a drift should know just how much ground he is breaking per round, which makes daily measurements of every heading necessary. The cards for each working place should state the time lost due to causes not under the control of the man, and the shift should be divided into two parts. Thus if a miner is held up all the morning by being forced to bar down a dangerous back, and in the afternoon does an unusual amount of work, he should receive credit for the full shift at the same rate of earning he has made during the afternoon. Bonus rates should be posted on each level or at the entrance to each working, and every new man starting to work should be made fully acquainted with the methods in use and rates of pay and bonus.

This may appear complicated to the manager, and the idea of increasing the number of bosses and clerks will probably meet objections, but once the confidence of the men is obtained and the system well started it will work out nicely and will tend greatly toward maintaining or increasing the average rate of the work performed.

Care Essential in Figuring Bonus

As to the method of determining the bonus to be paid in a particular case, I have found that one cannot be too

careful in establishing this figure, and, once established, the rate should not be changed except in the event of a change in wage scale or the adoption of some new condition or mining method that would make the old rates impossible. Careful records of past performance and a study of actual conditions should be made as the basis of the rate, and I have found that where a certain amount per man has obtained for a certain period it is well to accept this as the base rate and begin the bonus from this point, increasing at a regular rate as the work increases. In the event, however, that the employer feels that the average has been entirely too low, it is well to begin at a low rate and gradually increase the unit rate as greater output is obtained.

As an illustration of the first case, assume a carman trams thirty cars per day from a certain chute. The cost to the company on a base-rate of $5 per day will be 16.67 cents per car. With a bonus based on 50 per cent of the cost the carman would therefore receive, say 8 cents per car for every car over thirty. If he can save a little time at the beginning and end of the shift and not "take five" too often, it would be quite possible for him to increase his output by four cars, thereby increasing his wages 6.4 per cent and decreasing the cost per car to the company by 6.06 per cent. This means a direct saving of approximately 34 cents per carman per day for the company. If the same amount could be saved on the labor of forty men, it would be sufficient to pay the wages of the extra boss and leave a good margin for the company.

In a drift where the average footage advance has been four feet per round at a total cost of $20 for miners and muckers, or $5 per foot, the bonus to each man working, assuming the employment of two carmen and two miners, might be placed at 50 per cent of the total saving made. Thus: 4½-foot advance at $21.25 costs $4.72 per foot, and 5-foot advance at $22.50 costs $4.50 per foot. A direct return to each man at the 4.5-foot

rate of 31 cents per day and of 62 cents in the last case.

One thing that should never be attempted is to so arrange the bonus that it will always be constant. I have often heard mine superintendents say, We want our better class men to earn at least 25 cents per day more than the scale. This is a grave mistake and one that will result in the slowing up of the men, as the incentive is then taken away, since this constant bonus, in the eyes of the men, will mean nothing more after a certain period than a straight increase in wages, and they will lose sight entirely of the bonus idea. This was aptly illustrated a few years ago in the copper mines of Arizona. When copper went up the companies raised wages a certain amount per unit increase in copper, with the result that every man, from the mine superintendent down, felt, after the lapse of a few months at the increased wage, that his value to the company was the total wage paid, and lost sight of his base-rate entirely. If the companies at this time had taken the trouble to issue two different checks for each period worked, one check for the number of days due at the base-rate and the other check of different color for the copper bonus paid, it would have resulted in every man's looking upon that bonus check in an entirely different light and would have kept constantly in mind his actual base-rate and the amount he was earning because of the increase in the price of copper.

The bonus or task system, to be entirely successful, should be handled in a similar manner, and if rules were to be established for a bonus system they should be grouped as follows:

1. Never change a bonus rate.
2. Notify men daily of amounts earned.
3. Notify every man when he starts of the exact conditions under which he is working, bonus rates, etc.
4. Keep the bonus idea constantly in mind.
5. Pay all bonus by separate check.

BONUS PLAN FOR AUTOMOBILE SERVICE STATIONS [1]

All mechanics employed in the service station of Black & Maffett, Dodge Brothers distributors, of Atlanta, Georgia, work on what might be called a combination salary and bonus system.

Based on the law of averages we have devised a schedule of the time required to complete almost any job that is brought into our shops, and the work of all of our mechanics revolves around this schedule. Each mechanic is required to fill out a card for every job. This is known as a time card and it carries the workman's number and also his name, the number of that particular job, the date and the exact work that the mechanic performs. The mechanic is also required to write down on this card the exact time of day he started on this job, the time he finished the job and the total number of hours he devoted to it.

TIME CARD

Workman No..... Name of Workman.....

Job No. ..... Date .....

This is the time card and carries the workman's number and name, the number of the job and the work he is to perform. The mechanic writes on this card the exact time he started and finished. There is a card for each job and all the cards for the day's work are turned in and totalled. The schedule time for all the day's jobs listed by the cards are then totalled and the difference shows whether a bonous is to be paid or not.

Time Started..... Time Stopped..... Total Time on This Job ..... Hrs.

[1] By Jesse M. Bohler, Service Manager for Black & Maffett, Automobile Distributors, Atlanta. Motor Age. 38 : 10-12. October 21, 1920.

Now, then, at the end of each day the clerk in charge of these records will total the number of hours the mechanic actually worked that day. This is taken from the time card which he has filled out, and remember there is one card for each separate job. If the mechanic has not loafed at all during the day this total will be nine hours. Then the clerk will total the scheduled time for each particular job. If the mechanic does in nine hours certain work that our schedule allows twelve hours for, he has gained three hours. However, the following day he might work the full nine hours and turn out work scheduled for only six hours. In that case he will lose the advantage he gained the day before and will stand just even.

Our final totals and our bonus figures are made up at the end of each month. To best illustrate exactly how this plan works let us, for example, take the case of John Smith. We will say, John is an extra good mechanic. At the end of the month we find that John's time cards show he has worked steadily the whole month and has put in, we will say, a full two hundred hours. We find that John has turned out a certain number of jobs that our job time schedule shows we allow two hundred and fifty hours for. In that case John Smith will receive a bonus check equivalent to fifty hours of work at his regular rate of pay. Suppose that John receives seventy cents per hour; his bonus check for the month will amount to $35.

On the other hand, let us take the case of Bill Jones. We find that his time cards show he has put in one hundred and eighty hours in actual work. Evidently he loafed a bit, but regardless of that fact if his cards show he has exceeded the scheduled time we will pay him extra for it. Well, let's see how. In one hundred and eighty hours we find that Bill has turned out a certain number of jobs and that the total time we allow for these jobs according to our schedule is two hundred and one

hours. Inasmuch as the clock time for the full month was two hundred hours, Bill is entitled to a bonus equalling one hour's extra pay. In this case it would be sixty cents, for Bill's rate is not as high as that of John Smith who has been with us longer and is a better mechanic. It may be that there wasn't quite enough work in the shop to keep Bill Jones busy the full two hundred hours, or it may be that the twenty-hour loss between his time cards and the time clock is due to his own habit of loafing. In either case if he had put in that extra twenty hours in actual work he might have made an extra $10 or $15.

Careful Check Avoids Mistakes

On account of the fact that each mechanic's time is registered on the clock it is not possible for any of them to cheat, even were they inclined to do so, by incorrectly filling out their cards. We would naturally catch a man at this by comparison of his time card with his clock record. Each mechanic is required to fill out this own cards in his own handwriting.

These individual records are kept in a book that we have devised for this special purpose. The book contains each mechanic's name, his clock number, and space is provided for entering his clock time, card time, idle time and schedule time. These entries are made by the clerk in charge of these records every day, and we can tell at a single glance just how much any particular mechanic is ahead of the game, or behind as the case may be.

Every mechanic's clock time will run nine hours, unless he happens to be off for some reason. His card time should, of course, correspond exactly with his clock time providing he has worked steadily the whole day. If he has not worked steadily the whole day then we enter his idle time under that heading.

Now as to the column for schedule time, perhaps a little further explanation will not come amiss. Every job

that comes into our shop is scheduled according to the time it would require an average mechanic to accomplish. This is based, as previously stated, to more or less of a degree on the law of averages. And furthermore the customer is charged for the work according to this scheduled time, so you see where we make our gain when the mechanic is able to beat the scheduled time.

On the other hand if the mechanic cannot beat the scheduled time, but instead takes longer for the work, you can see where this is a loss to us. And naturally we will not keep a mechanic long in our employment who persistently takes longer for the work than the schedule calls for. *One of the big advantages of this combination salary and bonus plan is that it gives us at all times the fullest information as to the ability, or lack of it as the case may be, of every mechanic in our shops. And when a man asks for a raise it does not take us a moment to look up his record to find out whether or not he is entitled to it.*

Suppose a mechanic turns out three jobs in one day that we allow twelve hours for according to our schedule. Under the column for "Schedule Time" the clerk will write the figure "12." As the mechanic's clock time is nine hours, he has gained three hours that day, and if he keeps on exceeding his clock time this way every day he naturally will draw a good sized bonus check at the end of the month.

An instance is recalled of one mechanic who gained twenty hours on the schedule time the first fifteen days of the month. If he had kept this up the whole month and gained a full forty hours he would have received an extra bonus of $28, for he was a seventy-cent-per-hour man. However, something or other happened and during the next fifteen days he fell behind twenty-two hours, so he did not receive any bonus at all.

In the case where a mechanic happens to have a big

overhaul job on hand which may require two full days or even more, he does not turn in the time card until he has fully completed the job. We have had some of our mechanics beat the schedule time by ten hours on these overhaul jobs, while in other cases they took several hours more than the schedule calls for.

We have what we term a clearing house every thirty days. In case certain work is not finished at the end of the month, we check it up and it is carried over to the next month. In some cases this may give the mechanic fifteen hours extra at the start of the new month. It depends upon his own efforts whether or not he will add more hours to this or lose the ground he has gained and draw only his regular salary. If he merely holds even during the month and the final totals show that he has just that fifteen hours to his credit carried over from the last month, he receives that extra fifteen hours' pay as his bonus.

Paid When Work Is Slack

Naturally it is only fair to the employer, and to the employee as well, that when business is more or less dull in the shop and the mechanic has to loaf a part of the time he should not complain because he is not making any extra bonus. He should appreciate the fact that he is being paid while idle according to the clock hours, and this is exactly what we agree to do when we engage a man, although we engage all of our mechanics on the hour-rate basis.

Furthermore, we have an agreement with all mechanics that when a job comes back to them, and after our inspector has examined it carefully and decides it is the fault of the workman, the particular mechanic who did the work in the first place will do it over again on his own time. That is, if it requires five hours to do the job over again, this five hours is charged against his bonus. Should he be ahead of the game at

the end of the month this five hours is subtracted from the number of hours he may have gained.

A Sample of How the Bonus Plan Is Recorded

Following is the manner in which the records are totalled each month, these records being taken direct from the book mentioned in the article and in which they are kept from day to day:

No.	Name	Clock Hour	Card Hours	Idle Hours	Schedule Time	Gain	Loss
1	E. M. Darling	206	164	2	165	0	40
3	C. C. Walker	216	197	10	189	0	9
7	C. D. Randall	207	192	0	325	118	0
17	J. N. Petit	208	217¼	0	231	23¾	0

Every month there is posted in the shop the full record of each mechanic who has exceeded the schedule and is entitled to a bonus. Below is a sample of a recent builetin:

Clock No.	Name	Gain, Hours	Rate per Hr.	Bonus
34	H. E. Schlittler	26¼	.80	$21.00
33	W. A. Posey	64¾	.70	45.32
7	C. D. Randall	55¾	.80	44.20
3	C. C. Walker	¾	.60	.45

In case he is not ahead of the schedule this five hours is charged up against him every succeeding month until such time as he shall beat the schedule when it is subtracted from his gain. Furthermore, no man is entitled to an increase in salary until he has made up through beating the schedule, all time charged against him in the past—that is, all time such as jobs brought back on him, etc. If a man persistently beats the schedule and draws down a substantial bonus each month, as some of our best mechanics do, we are only too glad to raise his salary rate per hour because such men we have found are worth all we pay them.

It is not at all an infrequent occurrence for us to pay a good mechanic a bonus amounting to as high as $75 to

$100 for a single month. *Naturally we get the full return on this investment for every time the mechanic beats the schedule time that's just so much profit to us.*

Eliminates Outside Work

It has been our experience that a great many mechanics who work on an ordinary salary basis are sometimes apt to augment their income by working on cars on their own time after hours; they will generally do this at the owner's house. We have found that this salary and bonus plan virtually eliminates that practice among our men for if the mechanic is an energetic sort of a chap he can greatly augment his earnings by giving his full time and attention to the work in the shop. And by earning extra money in this way he does not have to augment his salary by giving any of his outside time to individual work.

All bills we send out to customers in addition to carrying an itemized statement of the actual work done, also carry the workman's clock number and the job number. At the end of the month the clerks carefully go over all these bills, check them with the inspector's card which was signed by him as to whether or not the work was satisfactory, and also check them with the workman's time card.

We also send out a card to all customers asking them as to whether or not they were entirely satisfied with the work done in our shops. Any replies that are received are filed with the duplicate bill, and therefore we have a complete check at all times on all work done in the shop as to whether or not it proved entirely satisfactory to the customer.

This checking up is done at the end of the month in order that we may make doubly certain regarding the work of each individual mechanic before we pay him whatever bonus he may have coming.

We also employ in our shop an efficiency man whose sole duties are to go around among the workmen and show them how to do this or that particular job as quickly and efficiently as possible.

PREMIUM WAGE PLAN IN MILWAUKEE SHOPS [1]

Substantial extra pay for industrious and efficient workmen, a saving to the company of some 25 per cent on the payroll, a more expeditious handling of work in the shops with consequent smaller organization and an invaluable accumulation of recorded information on detail car maintenance work are among the more important of many advantages accruing from the extensive use of a premium or bonus system of paying shop employees in Milwaukee. It has proved to be so eminently successful after six years of experience that neither company nor employees would consider a return to the old flat pay plan which was displaced. This premium system of wage payment was first initiated in the rolling stock department of the Milwaukee Electric Railway & Light Company in 1912, in connection with the washing of cars at carhouses, and it was tentatively experimented with on different classes of work during this and the following year. In 1914 it was definitely decided to extend the plan to the company's main repair shops. The plan was well started some time before the writer became associated with the organization and all credit for the pioneering work belongs to my predecessors and to many of the loyal workers of all ranks, who have supported the movement and who are now, if not at first, its most enthusiastic champions.

[1] By J. H. Lucas, Superintendent of Rolling Stock the Milwaukee (Wis.) Electric Railway & Light Company. Electric Railway Journal. 57 : 529-32. March 19, 1921.

Beginning with a few men and some of the more simple and easily standardized pieces of work, the application of the premium system has been extended by steps from the paint shop to the armature room and to the forge shop, machine shop and carpenter, pattern and foundry departments, in order, and lastly to the motor and truck repair division. It has been tried out and found adaptable to practically all phases of the great variety of work handled by a street railway shop, including the running maintenance, repairs and renewals and new manufacture and construction. We have covered all classes of operations, from the painting of cars, the manufacture of car and small machine parts, the construction and installation of new equipment, changing wheels and motors, rewinding armatures and even to the repairing of wrecked cars. It will be noted that at the present time 76 per cent of the working force is engaged part of the time on premium work and that nearly 50 per cent of all the man-hours time in the shops is for work done against standard time allowances and in a standard manner. The figures taken into account in computing the percentage of working forces and hours worked on the premium system are total figures which include the supervisory time as well as the time of the productive workers. Considering this, it can be seen that the premium system is a major and very important factor in our shop operation. It is so large a factor that we should be able readily to determine that the plan is a detrimental one or a very good one; that is, it either costs us money or it saves money. We shall endeavor to show that the latter is the case. For in the last analysis, the important question that the practical man wants to have answered is, "Does it pay?"

A General Outline of the System

The premium system employed in our shops consists, first, in making a detailed time and method study for

each job, to determine the standard method and the time required to do a certain piece of work. A stop watch is used for this purpose in most cases. The number of observations made (ten in this case) varies with the importance of the work. Our experience has shown that great care must be exercised and close scrutiny given in making the time study and before determining upon the standard unit of time or before issuing the "standard operation rate card" for regular use in the shop. In the machine shop, for example, it is necessary to take into consideration the type of machine to be used, speed, feed, material, quantity on the particular order, etc. We have found that special care in establishing a standard rate is well repaid, for it enables us to adhere rigidly to the rule that, once established, a rate is never changed except as made necessary by improved methods or improved machinery for doing the work. In other words, a workman can proceed to develop his maximum capacity without fear that he will be penalized by a reduction of the standard time if he makes good premium earnings. This rate cutting has been one of the chief objections raised by workers to the premium and piece-work systems in general in the past, and the reason for rate cutting lies primarily in insufficient consideration of all the production factors at the time the rate is determined. The details of the method, men, machines and means of doing a piece of work should be thoroughly studied, regardless of the time required to do this, and the standard can then be set close enough so that the company can afford to give the worker his share of the results of his ability and skill in bettering the time. When experience assures the men of a "square deal" they gain confidence in the plan, and this makes for a better measure of cooperation than is commonly found.

The men who make the time studies and determine the methods to be followed become very expert and command a good rate of pay and are worth it. Even

such jobs as repairing wrecked cars, which at first thought would not seem to lend themselves to standardization or an accurate estimate of the amount of labor which should be required, are now often handled on a premium basis in our shops, for analysis has determined that most of our damaged cars come within one of several classes of wrecks, either a one-post, two-post or three-post wreck, etc. The time-study man observes the extent of the wreck, carefully examines the car-body members to be replaced and, from past experience and study, is able to estimate with remarkable precision the amount of time that will be involved in making the repair. The workmen who are then given this job note the time allowed and immediately set out to beat that allowance, and they use their heads and conserve their time, for it means money to them to do so.

Any man working on a standard job is given one-half the time saved in completing the standardized operation. That is, where a man does a ten-hour job in eight hours he receives one hour additional pay, or pay for nine hours for eight hours' work. The division of the savings on a "fifty-fifty" basis between the man and the company is considered fair and equitable by both parties. The company's saving is partially used, it is understood, to defray the expense of employing time-study men and of providing the necessary standards and clerical help, in order to give the workman the opportunity to increase his day-rate earnings.

In the operation of a system like this the use of the unit system of timekeeping is a necessity. Instead of assigning daily time cards to employees the time of each man spent on each job during the day is recorded on an "operation time card."

Under the old system of timekeeping still used in many places, a time card is given to the workman on which to record at the end of the day, according to his best remembrance, each job he has done during the day

and the time it took him to do it. In most cases, he is expected also to enter the charge account number for the various jobs on which he worked. The disadvantages of this system, of course, are very apparent. It takes the man away from productive work, requiring at least fifteen to thirty minutes of his time to do "figuring" at which he usually is not adept. Jobs which do not take very much time are slighted in his record, because he does not want to go into any more detail than he has to. In some cases, a special timekeeper or checker has the duty of checking the work record with the man and his foreman and the assignment of the charge. But in neither case is the record returned anywhere nearly as accurate as with the unit job system, which we use in our premium system.

With this plan, the time card being worked on specifies one item of work. When the man changes his job, he also changes his time card. With the unit job system, the foreman determines in advance what the man's next job is to be, instructing his clerk to make out a time card showing the charge, standard operation number, the man's name, etc., and this card is placed in a rack, located adjacent to the departmental time clock, where the workman obtains it when he is ready to start work on the next job. The card on which a man is working is always turned in at night and a new card issued in the morning, as the card is a daily record only. As he takes a new card he punches the time recorder clock, which records in a decimal system the time at which work is begun on the particular job. When that job is completed he punches "out," thus printing in the time of completing the job, and at the same time he punches the new slip "in," which records the time at which he starts work on the new job to which that card assigns him, there being no loss of time between operations. The workman is not intrusted with any duties in connection with the timekeeping or record work other than merely punching the clock.

A "performance record," which is maintained in the main office of the shop, is of great value in checking up on the progress made over a long period of time. When an individual does the same job several times it is assumed that his efficiency should improve and that the time required to do the work will be reduced. This is not always the case, however, and variations from this natural tendency are followed up to determine the cause.

This performance record also makes possible a comparison of various men in doing the same piece of work. We have found cases where the time taken to do a certain piece of work, over a period of months, was remarkably similar, as far as it concerned a certain group of men, and that when this job was given to some one outside of the "ring" a considerably better record was made. The group in question had succeeded in deceiving the foreman to the extent that he thought they were doing very well, and, inasmuch as they were keeping within the standard, special attention had not been called to what was evidently an effort to control the amount of earnings on the job in question. This conniving would have some effect on the gross earnings made by the men, which would then be used as an argument for an increased day-rate. A little "shake-up" as a result of this investigation and the assignment of new men to the job results in some saving in the net cost of doing the work.

It happens now and then that the time consumed in a given job is in excess of the standard time. When a record of this kind comes through, a "non-premium card" is made out by the timekeeper and sent to the general foreman's office, from which an investigation is started to determine why more time was taken than should reasonably be allowed. The "stock" reasons printed on the back of the form are those used in connection with the work of the machine shop, and they differ, of course, for the other shops. This checking

up on the reasons for exceeding the standard time, we find, has a decidedly good effect on the men in general.

Function of the Foreman

In our method of applying the premium system, the foreman has been made an important functionary. We have arranged a bonus plan so that he profits from the extension of the system. It is to his advantage, in this way, to cooperate to the fullest extent in furthering the establishment of standard rates and seeing to it that they are used after being established. All our foremen now like the premium system, though some did not like it at first.

The foremen have found, however, especially during the last few years, that this system is a great help to them as it lightens their burdens of detailed supervision and thus enables them to give more time to the broader aspects of their jobs, such as planning of the work, devising improved methods, etc., in which they develop as leaders rather than drivers of men. The premium system supplies the incentive to reward and the check-up for failure that keeps the man on the job without some one standing over him.

The premium rates are arranged for, in the first place, largely on the authority of the foreman in the department. He has a time-study man assigned to work with him, and since his earnings from the bonus system depend on the percentage of net working time that is worked on premium in his individual department, he is interested in pointing out to the time-study man any new possibilities of jobs to be standardized. He is therefore also interested in approving these standards as correct after the time-study man has completed his work and in passing them on to the general foreman for approval.

From this procedure the responsibility for the proper operation of the rate after it is standardized rests in

great measure with the foreman, and we find that we now get rates that are remarkably accurate and standards that are fair in their returns to both men and the company. Under this bonus plan the foreman does not profit from any excess earnings that the men may make, and as the performance records are subject to scrutiny the foremen give a good deal of care and attention to the rates before they recommend them as standard.

The foreman soon finds that the system is of assistance to him because the standard rate-card file is much more dependable than his memory as to methods of doing a job, or his pocket notebook if he kept one. Most of our foremen now use the records extensively in assigning work. If his assistant quits, the foreman has an easier time in breaking in a new man. All he has to do is to hand him the standard job card on any particular piece of work and say: "This is the way to do it and this is the time it should take, if done right." The assistance afforded by these records is not as greatly needed for the day-to-day recurrent jobs and with a steady, competent gang of workmen as it is for the infrequent and varying jobs, such as wrecks, for example, which are rarely twice alike in the same week, but which do occur in almost exactly similar detail several times in a season.

Good Workmen Like the Premium System

Our men like and appreciate the premium system because it is of mutual profit to the company and to them. It gives them an opportunity to work under better conditions, for they are better satisfied to receive recognition for the actual labor they perform than to be without identity, as under the former system of flat day-rates of pay. By making a man responsible for the performance of a definite task and setting a standard of attainment for him, his love of achievement, his desire for

the good opinion of his superiors and his fellow workers and his personal interest all impel him to meet the standard and better it. The instinct of competition with fellow workers is usually very strong, and the friendly rivalry which is plainly in evidence is a powerful spur to accomplishment. A good man likes to beat the record of the other fellow, and incidentally it means money in his pocket to do so. The responsibility is a steadying and good moral influence, contributing to self-development. Promotion and wage increases are based on performance records, and they afford further recognition for merit and accomplishment.

The study that has been given to individual jobs has also resulted in the remedying of inefficient shop conditions and has served to increase the general plant efficiency. More attention is being given to planning and scheduling of work through the shop. Materials are delivered to machines and work places in advance of the time they are needed, and instead of having high-priced mechanics running all over the shop to secure some little bolt or screw, this is done for them more expeditiously and at lower cost by some lower-priced laborer. Thus undisturbed in his job, the workman is enabled to devote his entire energies to production, and by increasing his production to find additional money compensation.

What Does It Profit the Company?

We are certain that 33⅓ per cent is a conservative figure for the average saving in time for standardized work over unstandardized. And since approximately one-half of the working time of the shop is on the premium plan, the net reduction in the payroll from this source is seen to be 16⅔ per cent. To be added to this is a saving equal to 10 per cent of the total payroll hours which is obtained from the company's one-half share of the time saved by workmen earning premiums.

This brings the total profit to the company up to more than 25 per cent of what the payroll would be without the premium system. This "income" or "saving" or "credit entry," or whatever one may wish to call it, is not affected by fluctuations in the rate of wages, as is the case with piece-work and similar systems, for this plan is based on time units which do not vary, rather than on monetary values. This saving of one-fourth in the payroll or number of labor-hours used for the output of the shops is really too low a figure to represent the returns to the company, when the productiveness of the average worker on flat pay basis in the immediate past is taken into account. I do not hesitate to express the opinion that our shop force and payroll would have had to be one-third to one-half larger in number and cost during the past year had we been operating under the flat day-rate wage system.

Standards Being Set for Every Job

Due to the extreme care which it was necessary to exercise in the observations preparatory to the establishment of the standard time for various operations, the extension of the premium system, particularly at first, was a gradual and slow procedure. As every one in the organization has become more and more familiar with the details of the plan and the time-study men have become more skilled, the expansion of the system to new work has been more rapid, until now we are reaching standards for the very intricate and infrequent jobs. It should be mentioned also that there are many corollary savings to the company, resulting from expediting the movement of work through the shops, the more exact costs returned, the checking up on odds and ends of the work, etc. These are small matters in themselves, but in the aggregate they make entries on the credit side of the ledger of considerable importance, for "a penny saved is twopence earned."

Head time-study man	1
Time-study men in various departments	5
Chief inspector	1
Inspectors in various departments	6
Stenographer	1
File clerk	1
Total	15

Against the credits to the premium system noted in the past few paragraphs must be charged the expense incurred for the larger supervisory, office and inspection forces required. The number of employees used in these capacities for the operation of our premium system, with a shop force averaging between five and six hundred men, is approximately shown in table above.

I question whether the time of the inspectors should be charged against the operation of the premium system. But there has been so much criticism directed against the various incentive methods for increasing production, because it is alleged that they reduce the quality of the work and increase the number of equipment failures, etc., that we have debited the premium system with the cost of the inspection department. Some would consider it necessary in any event. The net result is an increase of 2.5 to 3 per cent in the payroll to offset the 25 per cent decrease explained above.

THE "100 PER CENT TIME PREMIUM" PLAN[1]

In my mind, the only means by which maximum production per man and minimum costs per unit can be achieved is the adoption of a practical and simple incentive system of wage payment coupled with an effective control of materials, time, and expense, and the one plan which in the writer's opinion combines all these advantages is that in which the worker is rewarded in direct proportion to his accomplishments by receiving pay

[1] By L. V. Estes, President, L. V. Estes, Incorporated. Management Engineering. 1 : 231-4. October, 1921.

for 100 per cent of all the time he saves by his increased efforts.

This plan is known as the "100 per cent time premium plan," and its simplicity, practical application, and advantages can best be illustrated by the following typical examples, the first applying to individual effort, the second applying to gang effort.

The Plan Applied to Individual Effort

In a certain machine shop a workman with a guaranteed hourly-rate of 55 cents was assigned to a job which called for the processing of a lot of 100 of a certain piece, the standardized operating time allowance on which was 4 pieces per hour. In this shop the working hours were 9 hours on each of the first five working days of the week and 5 hours on Saturdays. Because of definite, posted, written guarantees by the management, the workman knew, according to the 100 per cent time premium plan which had been installed, that:

1. For every hour he actually worked he would be paid his hourly-rate, whether his output surpassed the standard or not.
2. At the end of each job his output would be carefully inspected to determine the quantity of perfect pieces produced, the only item adversely affecting the amount of premium earned being the quantity of imperfect pieces due to defective processing.
3. He would be paid at his hourly-rate for 100 per cent of all time saved over standard time allowed after deducting pieces rejected because of faulty processing.
4. He would be paid for all processed pieces failing to pass inspection due to defective material, for which he could not be held responsible.

On receiving his instructions, time ticket, tools, and materials for the job, he noted that 100 pieces were to be made at a standard allowance of 4 per hour, which meant that if he were to meet the standard he must finish the 100 pieces in 25 hours. Knowing that the working day was 9 hours long, he could easily figure that at the standard rate of 4 per hour, in order to fulfil the requirements he must produce at least 36 pieces a day for two days, and 28 on the third day. He also knew that if he were to earn a premium he must increase his rate of production over the standard, taking care at the same time not to spoil any work, for if he did it would be deducted from his total production, thereby decreasing his opportunities for earning extra money. Encouraged by this incentive his output was as follows:

First day	42 pieces in	9 hours
Second day	44 pieces in	9 hours
Third day	14 pieces in	3 hours
Total production	100 pieces in	21 hours

After inspection the record showed that 95 pieces were accepted, 3 pieces were rejected because of being spoiled in processing, and 2 pieces were rejected because of material defects showing up during processing. In accordance with the company's guarantee he was credited with 95 perfect pieces plus 2 imperfect pieces due to invisible defects in material, or a total of 97 pieces for which he knew he would be paid.

His actual earned time therefore was easily and quickly calculated as follows: pieces to be paid for divided by standard allowed pieces per hour times his hourly-rate; or for that particular job, 97 divided by 4 times $0.55, or $13.33. The actual time taken, however, was 21 hours. His standard pay, then, based on his hourly-rate, would have been 21 times $0.55, or $11.55. As he actually earned $13.33 because of "beating time" his premium was $13.33 minus $11.55 or $1.78.

At the end of the first day he counted his pieces produced and found that he had made 42. Having already figured that he must make at least 36 if he were to meet the standard for that day, he knew that if the inspector passed all of the 42 pieces which he had made he would be six ahead of the standard production rate. He would have saved 1½ hours for which he would be paid at his hourly rate, if for some unforeseen reason he did not fall behind in his productive rate or unfortunately spoil a number of pieces before the end of the job.

On the second day he attacked his work with redoubled determination to maintain and if possible increase his lead, and at the end of the day found he had produced 44 more pieces. He saw that he had increased his previous day's lead six pieces by eight more, and was now 14 pieces, or 3½ hours ahead of schedule.

On the third day he went at it again with the knowledge that he had only 14 more pieces to make and 7 hours in which to make them, in order to meet the standard. He did not slow up because he happened to be well within the standard limit, but went at his job with more determination than ever and of his total job of 100 pieces he finished the remaining 14 in 3 hours, or 4 hours ahead of the time limit. He met with a little misfortune, however, as he spoiled 3 pieces and uncovered material defects in 2 others which would necessitate their rejection.

The Worker Himself Can Figure His Wages

He knew then that the three pieces he spoiled would be deducted from his total, but the two defective pieces due to faulty material would not be deducted, consequently he knew that if the balance of his output passed inspection he would have 97 to his credit. Knowing that the standard allowed rate of production was 4 pieces per hour, he could readily figure that his earnings

for the job would undoubtedly be 97 divided by 4 times $0.55, or $13.33.

He also knew that in 21 hours of actual work he had completed an amount for which the standards allowed 25 hours, and if all pieces had been perfect he would have earned 4 hours premium. But unfortunately he had spoiled 3 pieces for which he would not be paid, as his earnings were based only on accepted output.

On the basis of accepted output he could readily figure that his allowed time for 97 accepted pieces at the standard rate of 4 per hour would be 97 divided by 4, or 24¼ hours. But his actual working time had been 21 hours, so he had beaten the standard by 3¼ hours and his premium therefore was 3¼ times $0.55, or $1.78.

Thus we can see the simplicity of the 100 per cent time premium plan of wage payment, its ease of application, its fairness to both employer and employee, the ease and celerity with which it can be understood, and the comparatively few computations required by either the workmen or the few clerks required to handle it. It can also be seen that the incentive or premium earned is an absolutely direct and immediate result of the workman's individual effort, and is directly proportional to his accomplishments.

The Plan's Application to Gang Effort

That the system is as fully applicable to gang work or effort as it is to individual effort is made evident by the following actual occurrence.

In a certain iron foundry the men were paid a premium of $0.05 per flask produced over certain quantities and in accordance with different patterns. This had proved unsatisfactory to both the men and the company, the output from week to week being very erratic,

sometimes high, sometimes low, varying largely with the size and shape of the patterns.

According to the plan in force a premium was paid all molders only, who in this case happened to be machine molders. Consequently dissatisfaction was prevalent among cupola men, core-makers, and foundry laborers, because they received the same pay whether for large or small tonnages, while the 11 molders at times received much more than their regular wages.

The records showed weekly tonnages fluctuating from 18 to 41 tons per week with costs per pound varying from $0.0234 to $0.0113 respectively. The weekly average over a period of six months was 34 tons per week at an average cost of $0.0137 per lb.

The foundry operated five full days of 9½ hours each and 5½ hours on Saturdays. On Saturday, however, the tonnage was light, but with nearly the same charging fuel and power costs and loss of iron for a full day, thereby greatly increasing the cost per pound for that day over the normal 9½ hour working days during the balance of the week.

As the output was so erratic as to make very uncertain the meeting of manufacturing schedules in the machine shop, and as the machine shop received its entire supply of castings from this foundry, which was a part of the same concern, a change was necessary.

It was decided, after a conference, to abandon the existing bonus methods, which were based on individual parts or weights produced per day, and to substitute in its stead the 100 per cent time premium plan with weekly-rates based on tonnage produced per week.

An analysis of past performance and maximum daily cupola capacity led to the establishment of a standard rate calling for six tons (12,000 lb.) per day, or 30 tons (60,000 lb.) for a five-day week and 36 tons (72,000 lb.) for a full six-day week, in the latter case Saturday being a full 9½ hour day, the old 5½ hour Saturday

being entirely abandoned. Furthermore, all foundry employees, including the foremen and the superintendent, were placed under the new or "tonnage basis" conditions, thereby reducing the entire situation to a collective and cooperative proposition whereby it automatically caused each man to do his level best or the entire crew suffered.

The following definite stipulation was made and posted conspicuously throughout the factory:

> For all weights over 60,000 lb. for a five-day week, or over 72,000 lb. for a six-day week (full 9½ hr. on Saturday) each man will be paid 100 per cent of all time savings brought about by any increase in the tonnage over the standard set, such payment to be based on his hourly rate. Inspection will determine the net quality tonnage for which premium will be paid, and premium earned during any week will be paid on pay day of the next week following.

The actual inspected and accepted tonnage for five days during a certain week was 70,586 lb., which was 10,586 lb. in excess of the standard of 60,000 lb. for five days. This was a direct gain in production of 17.6 per cent over standard requirements. Therefore, since it had been agreed to pay each man 100 per cent of all time savings made, each man's pay for that week, based on his guaranteed hourly-rate, was increased by an amount equal to 17.6 per cent of his weekly normal earnings.

An Application of the Plan

For example, a certain workman, whose hourly-rate was $0.45, worked five full days of 9½ hours each, or a total of 47½ hours. His normal week's pay was therefore, 47½ times $0.45, or $21.38; his premium 17.6 per cent times $21.38, or $3.76; and his total pay for the week $21.38 plus $3.76, or $25.14.

This method of computing weekly earnings was applied to every foundry employee, foreman, and superintendent included. Analysis of all previous records showed the following:

1. The output of 70,586 lb. for the week in question was the largest five-day record ever made.
2. Only twice had this record been beaten and then by six-day runs in each case.
3. The daily average for the week in question was 14,117 lb., which was a 24.8 per cent increase in production over the daily average of 11,295 lb. for the 26 previous weeks.

The aforementioned method of applying the 100 per cent time premium plan had a great moral effect on all of the employees, spurring everyone to do his best and making the laggards so unpopular that they either automatically fell into line or got out, relinquishing their jobs to men who were willing to work and produce results. Soldiering, carelessness, and absenteeism on the part of any one or several employees adversely affected the quantity of production obtainable and consequently the amount of premium earned. The introduction of the plan has therefore resulted in these three obstructive practices being virtually eliminated from the foundry.

The 100 per cent time premium plan of wage payment has clearly demonstrated practical, meritorious features as follows:

The Essential Features of the Plan

The plan requires no great mental effort on the worker's part to figure his earnings. He does not have to bother with percentages, bonus tables, and formulas which give rise in the average worker's mind to the thought that such mechanisms are simply clever devices evolved by the employer by which unfair advantage can be taken of his limited education, thereby holding back from him a portion of his earnings, rightfully belonging to him by virtue of his efforts.

The net effect of such complexities, although psychological, is powerful and the obvious and natural result is loss of interest on the part of the worker, retardation of production and the engendering in the worker's mind of suspicion and distrust of the management which it becomes almost impossible to eradicate.

In addition to the above advantages, the simplicity with which earnings can be computed makes possible the employment of a fewer number of clerks for operating this system than are required by any other plant which uses time as a basis of computation.

Under the 100 per cent premium plan it is possible to have two workers do a similar operation, under the same standard, with varied earnings, but with similar productive results. This applies especially in the cases where an older employee may receive $0.70 per hour, while a younger employee may receive but $0.55 per hour. An employer is entitled to this profit, and it is certainly justice that the older employees receive preference over the younger ones as to amount of hourly-rate, because of their long terms of service, their loyalty to the concern which employs them, their ability to operate most types of machines, and their thorough familiarity with the company's product.

Standards set for the 100 per cent time premium can remain indefinitely without adjustment, at the same time allowing for the fluctuations of the community wage-scale. Standards need adjustment only when the motions of an operation or the methods of processing are changed, due to the introduction of improved machinery or tools, and are so guaranteed in writing.

Fluctuations in the labor market are met by merely changing the basic hourly-rates to meet the revised conditions, and no change whatever is made necessary in the standards, thereby avoiding the usual and serious dangers encountered when rates are cut.

The Plan Begets Confidence

The worker is guaranteed a definite hourly-rate and a definite day's earnings based on working a normal full working day at his hourly-rate. This is very important to learners, as it prevents them from becoming discouraged when they fail to meet or surpass the standards. In addition, the worker is paid his hourly-rate for all time saved above the fair and equitable standard which must always be set as the result of careful time study and operation analysis, taking into consideration all influencing factors. Thus confidence is inspired in the worker, and the greater interest and conscientious effort put forth by him to attain and surpass the standards set naturally result in increased wages, lower costs, and greater profits.

The plan holds back a worker for only one reason, namely, lack of quality production, and this is the only justifiable reason why any worker operating under an incentive or any other plan should be held back. With correctly set standards there is no reason why a worker should not be allowed to produce to the limit of his ability; for the more good pieces he produces in a given time period and the more he earns, the less the cost of the product and the greater the profit to the company.

Any steps taken by the management to prevent the worker from producing more work and therefore earning more money are likely to have an immediate and disastrous effect. Such tactics will absolutely defeat the main objects of the incentive plan as set forth above, and will produce the same dangerous results as would occur if the standards were flagrantly and unjustifiably cut for the sole reason of preventing the worker from earning what might be thought to be "too much money."

Under the 100 per cent premium plan no arbitrary monetary penalty is levied against a workman who fails to reach any given standard of performance which has

been set. Such a penalty, by virtue of its inherent unfairness, serves only to kill the workman's initiative and desire to strive for greater efficiency. Furthermore, such a penalty as just mentioned invariably reacts on the beginner, who would naturally be the first one to fail to reach a given standard. The only penalty, if it can be properly called such, is that the premium paid is based solely upon the number of perfect pieces produced which pass inspection.

Each Job Based Upon Its Own Merits

The plan deals with the worker's individual accomplishment on each job to which he may be assigned. Such a job is considered as a unit with no relation to any other preceding or succeeding jobs he may be on, and if he earns a premium on one job, he is paid this premium—if he fails to earn a premium on his next job he is paid at his guaranteed rate for the actual hours he worked. Therefore it is evident that if a worker were to be employed on, say, seven different jobs during three normal working days and surpassed the standards set on only three of the seven jobs, he should naturally be paid a premium on the jobs on which he surpassed the standard, while on the others he naturally should receive no premium.

Any averaging of the worker's efficiency over a given period and the paying of premium according to whether this average exceeded the standard or not would be essentially unfair and unjust. The failure to make a premium on certain jobs might pull a worker's average down so low as to nullify the premium made on certain other jobs, thereby preventing him from receiving what was rightfully due him as the result of his efforts. Thus he would be penalized for something for which he might not be at all to blame, namely, an incorrectly set standard or an inherent lack of aptitude for some particular job or jobs.

The plan is just and moral because it violates no right or obligation; it gives to every man exactly his due; it is equitable in action and judgment; it conforms to and is grounded in reason; it is essentially fair and impartial; it is characterized by practical excellence; and it conforms strictly to one's natural sense of what is right and proper.

Cases Where Workers Fail to Earn Premium

In the event a workman consistently fails to reach a standard which has been fairly and equitably set, it is well to realize that in all probability he is not fitted for the particular work he is doing. In all fairness to both employer and employee he should be transferred to other work, until he is fitted into his proper niche, which a little patience and fair dealing almost invariably finds for him.

Cases will be encountered where an employee is naturally perverse, unreasonably stubborn, and simply will not try to attain a standard. Such a man is not thinking in the right direction, and harsh treatment and penalties make no impression upon him other than to increase his stubbornness and fan his antagonism to a greater heat. Often such a case can be cured by talking to the man quietly and sensibly, explaining and demonstrating matters simply and logically, appealing to the man's pride in his own personal welfare and that of his dependents, and showing him wherein he has an incorrect understanding of the entire situation.

Very few employees will fail to respond to such a course of treatment. When their thoughts are guided into the right channels, they ordinarily see their mistakes, although not always willing to admit them in so many words. They nevertheless show their appreciation and their new understanding of matters by conscientiously applying themselves, and sooner or later

they actually reach and often surpass the standards for which they originally held such an antipathy.

Outside of the kind of employee just mentioned, employees ordinarily fail to earn premium either because of the standards improperly set, or the worker not adapted to the task, or possibly both.

In the first case it means a careful and thorough restudy of the operation or operations to determine wherein the existing standard is in error, and if it is in error their immediate correction, thereby insuring a fair and equitable standard in all respects.

In the second case it becomes a matter of endeavoring to place the worker on work to which he is better adapted and for which he has the greatest possible aptitude. This requires patience and the proper recognition of the human factor, for in many cases a worker who is a hopeless failure on one class of work is found to be an exceptionally efficient producer on another.

These characteristics have caused the plan to succeed and accomplish its purposes wherever installed.

The incentive held out to the workers makes possible a high rate of efficiency, maximum quality production per man, greatly decreased costs, and increased profits.

A "CREDIT POINT BONUS CONTEST" PLAN[1]

This article deals with a new idea in industrial management, which is in successful operation at the plant of the Dittmer Gear & Manfacturing Corporation, Lockport, N.Y. This company has instituted what is known as a "credit point bonus contest," which is closely identified with its regular bonus system. Before describing the credit point system, an idea will be given of the regular bonus system used.

[1] By A. H. Dittmer, President Dittmer Gear & Manufacturing Corporation, Lockport, New York. Machinery. 27 : 549-51. February, 1921.

Efficiency Percentages for Determining the Amount of Bonus

When a man is hired, he is given a flat hourly-rate, and he receives this rate as long as he remains on work which is not classified under the bonus system. As soon as he has been put on a job that requires him to work under the bonus system, he is given an opportunity to fix a standard that will represent the amount of work that he should do in a given length of time working at a normal speed and under average conditions. The standard which he thus establishes, working to a stop watch, is accepted by the company as a 100 per cent efficiency mark. As long as the operator can produce 67 per cent of this established standard, he is paid his regular flat rate, but his 67 per cent is a low average for a workman to maintain, for a man whose production drops 33 per cent as compared with what he is able to do under normal conditions is not the kind of man that an efficient organization is desirous of keeping on its payroll, unless there is a good excuse for such a drop.

Starting with the low limit of 67 per cent of the established hourly standard, a chart has been prepared in which all the efficiency percentages up to 180 per cent are listed, and arbitrary bonus percentages given for each efficiency percentage, so that the amount to be added to the man's flat hourly-rate can be readily calculated. There is no bonus for 67 per cent efficiency; for 70 per cent efficiency, there is a 1 per cent bonus; for 75 per cent efficiency, 3 per cent; for 80 per cent efficiency, 5 per cent; for 90 per cent efficiency, 10 per cent; for 100 per cent efficiency, 25 per cent; and for each per cent increase above 100 per cent an additional 1 per cent in the bonus rate is made. This brings the bonus rating for the maximum efficiency of 180 per cent, provided for on the chart, up to 25 + 80 or 105 per cent.

Perhaps the method by which the bonus is figured will be better understood by taking a concrete example.

Dittmer Gear & Manufacturing Corporation

BONUS RECORD

Employee Hannington, L. D. Clock No. 56 Week Ending Sept. 21 1920

DATE	PART NO.	OPERATION NO.	PIECES FINISHED	TIME ACTUAL HRS.	TIME STAND. HRS.	% EFFY.	BONUS PERIOD EARNINGS	BONUS RATE	BONUS EARNINGS		PRO RATA TO COSTS
9/15	d 21	50	90	7.00	5.00		3.00				0.99
	12	560	15	1.25	0.68		0.62				0.20
16	"	"	17	3.50	3.50		1.75				0.58
17	"	668	25	4.00	3.57		1.00				0.33
	"	660	28	4.00	4.66		1.00				0.33
18	"	"	29	4.25	4.83		1.00				0.33
	"	668	34	4.25	4.85		1.13				0.37
20	"	"	76	9.00	10.85		2.25				0.74
	"	660	70	9.00	11.66		2.25				0.74
21	"	668	58	8.00	8.40		2.00				0.66
	"	660	70	9.00	10.66		2.50				0.83
				63.25	68.66	108	18.50	33	6.10		6.10

The record of the earnings of each man working under the bonus system is kept on bonus record charts such as illustrated in Fig. 1. It will be seen that in this case the operator worked on a number of different operations during the week, and that in establishing the efficiency percentage, the total week's work is considered. Referring to the fourth item on this record, it will be seen that operation 66B was performed on twenty-five pieces in four hours' time. The standard established for this particular operation is seven pieces per hour, so by dividing the number of pieces of work by this standard, the number of standard hours 3.57 is obtained. This is slightly below 100 per cent efficiency as can be readily seen, but in the case of the second item the efficiency percentage is dangerously low. However, by considering the totals for the week it is seen that in 63.25 hours, the work of 68.66 standard hours was accomplished. Dividing the number of standard hours by the actual number of hours consumed, gives the efficiency percentage of 108 for the week.

Now by referring to the chart of bonus percentages for various efficiency rates, the payroll department will be able to see at a glance that an efficiency rating of 108 per cent represents a 33 per cent bonus rating. That is, 33 per cent of the man's flat-rate earnings for the period that he has worked under the bonus system or, in this case $18.50, represents the bonus earnings during that period of time. In this case the bonus earnings are $6.10, which is in addition to his regular flat-wage. In the column at the extreme right, the extra costs above the regular flat-rate are prorated for each operation, so that the cost accounts may be correspondingly corrected; 33 per cent of the time earnings for the bonus period for each job gives this amount, which is added to the cost of each job.

It is not intended to reestablish standards for different operators. Most jobs have previously been rated, and this standard must be the one used for all operators,

regardless of their flat wage-rate. If in the case of a job on which no standard has been set, a man is timed and produces twelve pieces per hour, this is considered the hourly standard; to obtain the standard hours, the total number of pieces produced in any lot is divided by this standard per hour. For example, if there are 720 pieces in a job and a man in establishing the rate, machines 12 pieces an hour, then the standard hours for the operation is 60. By dividing the standard hours by the actual number of hours required to do the work, which in this case we may assume to be 48, the per cent of efficiency is found to be 125. It was previously stated that 100 per cent efficiency yields 25 per cent of a man's rating as a bonus, and that for every per cent rise in efficiency a 1 per cent increase in bonus is made, so that in the example cited, 125 per cent efficiency represents a bonus of 50 per cent.

Special Bonus Provision for Set-up Men

Obviously the bonus system for the machine operators cannot influence the earnings of the set-up men, and also has no connection with the work of other non-producers such as inspectors. In order to create an efficient organization, such non-producers must be taken care of in the credit point bonus system, which is to be described later, and so special means are employed to enable these men to receive similar benefits to those paid the machine operators. The inspectors share in the benefits of the credit point bonus contest through their endeavors in maintaining high-grade shipments, as will be referred to later. In the case of set-up men, the following special bonus system applies. Each set-up man has a group of machines under his personal supervision; if these machines run without loss of time for a week, the set-up man is credited with 100 per cent efficiency, and from this credit, lost time caused by machine repairs, absent operators, etc., is deducted. The set-up man is also credited with 100 per cent efficiency if the operators on

all the machines under his supervision make an efficiency rating of 100 per cent.

Both of these efficiency percentages are scaled down to 80 per cent, that is, if the set-up man registers 80 per cent on both these items he is paid his flat hourly-rate. For each additional per cent over 80 for each of these items, he is entitled to ½ per cent of his rate as a bonus, so that if the set-up man registers 100 per cent for the week in both items, he receives a 20 per cent bonus. These bonus earnings are recorded weekly in a similar manner to the earnings of the regular productive man.

Rejected and Scrapped Material

It would, of course, be unreasonable to pay bonuses for rejected work; therefore, fair reductions must be made so that the company will not have to pay for work which is not properly machined. When it is necessary to make such a deduction in a man's earnings, the slip shown in Fig. 2 is made out in triplicate by the inspector, and one of these copies goes to the payroll attached to the bonus record, Fig. 1. The second copy is handed directly to the operator so that he may know before pay day all details in regard to the reason for making deductions. The third copy is retained by the inspector for future reference. After the proper deductions have been made in the payroll department, the bonus record with the deduction notice attached, is placed in the workman's pay envelope so that he can check up his entire bonus earnings without being obliged to ask for explanations from the clerical department.

The Credit Point Bonus Contest and Its Conditions

Having described in detail the bonus system used in connection with the credit point bonus contest, the method of making awards under this scheme will be better understood. The contest was originally intended

to run for a period of six months, but it is planned to renew the contest as soon as the present period has expired. In this way the contest constitutes an additional bonus system which takes into consideration not only the production end of the industry, but also all other factors which by special effort will add to the efficiency of the organization. A committee of men from the shop was selected for the purpose of conferring with the management in regard to improving the contest from time to time, for it was realized that such improvements would be necessary as the results of the contest became more in evidence. The general purpose of the contest is "to reward employees for initiative, loyalty, efficiency, and regularity, and to increase the efficiency of the plant in general."

DGMC-90-9-11-1000

Deduction Notice for Material Improperly Machined

Date_____

Operaters Name_____ Clock No._____

We have deducted the following pieces from your production of_____

Quantity	Symbol	Operation	Remarks

FOREMAN

_____INSPECTOR

Fig. 2. Record Form on which Deductions for Poorly Machined Work Are Entered.

The contest is a means by which additional awards may be earned for various things such as attendance, efficiency, etc. The basis by which the awards are made is by points, each point representing an award of 5 cents. Besides the various factors which are subject to awards under this contest, provision is made for paying special awards for ideas suggested which will benefit the organization. All employees with the exception of the executives, are eligible to partake in this contest. The same amount, 5 cents, is used when penalizing the men for breach of established rules and regulations of the company, as is awarded for meritorious service or evidence of cooperation and loyalty to the concern. The following classification of subjects to receive the attention of the management in conducting this contest has been made:

1. Perfect attendance. When no time has been lost through absence or tardiness for one month, 40 points; two months, 50 points; three months, 60 points. For each additional month, 5 points are added until 80 points per month are reached, which is the maximum monthly award for attendance. Exceptions are made in case of sickness, death, or other serious matters, provided the management is notified to that effect.

2. One hundred per cent efficiency in production. First week, 5 points; second week, 10 points; third week, 15 points; each following week 20 additional points. To be eligible for awards for efficiency, the employee must have registered at least 35 bonus hours per week; that is, it is necessary for an employee to actually work 35 hours each week on bonus work in order to become eligible for awards, regardless of the bonus per cent that the man may have registered.

3. Continuous service (not being removed from the payroll for any reason). Such service receives awards regardless of the attendance record. For three month's continuous service, 20 points; for six months' service,

25 points; for nine month's service, 30 points; and for each additional six month's service, 70 points.

4. Suggestions submitted and accepted. No award is made of less than 10 points, and no award is paid for suggested plans of improvements already under consideration by the management. The awards are based on the value of the suggestion, and may be increased as the suggestion becomes of greater value to the company.

5. Rate of scrap as determined by material and labor losses. The determination of the rate of scrap is made near the termination of the contest, and awards are made as follows: 1 per cent or less, 100 points; 1 per cent to 2 per cent, 75 points; 2 per cent to 3 per cent, 50 points; 3 per cent to 4 per cent, 25 points; above 4 per cent no award. These awards are paid to every person in the plant. Employees not having served through the entire bonus period benefit proportionally to their length of service.

6. Maintenance of high-grade shipments. These awards are made to inspectors only. For 100 per cent shipments, 25 points; for 1 or 2 per cent rejections the award is determined by the money value of the rejected work.

7. Gold medal or honor productive man (man having highest record for efficiency in production during a month), 25 points; gold medal or honor non-productive man (set-up man having highest efficiency percentage, and inspector having highest efficiency for monthly shipments), 25 points. Non-productive men such as inspectors, set-up men, etc., obviously do not have as good an opportunity of registering large numbers of bonus points as do the productive men, and for that reason each class is given a like consideration in making gold medal awards. This same policy is followed in every case where prizes are involved. There is an honor roll maintained in connection with the credit

point bonus contest which is posted every week, giving the time-clock numbers of all men who have registered an efficiency percentage of 100 or better. It is the average taken from these weekly honor rolls that determines the awarding of gold medal prizes"

8. Miscellaneous credits and penalties subject to the special attention of the management. (a) Clean and orderly machines, desks, benches, etc., penalty or award 5 to 15 points; (b) clean and orderly condition of floor around machines, desks, etc., penalty or award 5 to 15 points; (c) carelessness in handling blueprints, penalty 25 to 50 points; (d) failure to use the provisions made for handling work, penalty 5 to 15 points; (e) smoking inside the shop or mutilating bulletins or notices, penalty discharge and loss of all points; (f) carelessness in handling materials, penalty 5 to 15 points; (g) promptness in making out reports and for being up to date in work, award or penalty 5 to 25 points; (h) failure to turn in gages between day and night shifts, penalty 5 to 15 points.

Additional Facts Regarding the Contest

In addition to the foregoing eight classifications, special prizes are awarded to those registering the highest net number of credit points during the period of the contest. Three of these prizes are for producers and three for non-producers, and the management has reserved the right to name the amount of these awards, so that the awards may be made in proportion to the amount of profit realized by the company during the period of the contest. Such things as committee work, athletic showing, handling and returning of tools, etc., are especially awarded or penalized, and also such things as department efficiency, department attendance, etc.

While this system should work out to the decided advantage of the employee as well as the employer, a

strict discipline must also be maintained. No cheating or evasion of duty, if discovered, will escape being penalized, and second offences result in discharge. Payment of credits and special prizes is made immediately after the close of the contest.

In the case of a break occurring in a man's attendance record, efficiency rating, or any other feature of the contest, whereby from consecutive records cumulative awards accrue, the minimum point toward them becomes the starting point for all additional awards. In general, where penalties are inflicted for breach of rules, the matter is handled in such a way as not to inflict undue hardship, and in most cases warnings are given before penalties are inflicted. These conditions, of course, are brought to the attention of the management and they are dealt with as the severity of the case warrants.

Effect of Contest on the Appearance of the Shop

The impressive thing about this contest is that it works, and the results are evidence that it has gone a long way toward bringing about the object for which it was designed. The interior of the shop presents an exceptionally attractive appearance and there is a noticeable freedom from congestion. The thought is evidently uppermost in each man's mind that a contest is in operation and that they are all after the big awards. Then as constant reminders, a number of notices are hung from the walls which read "Let's Keep Her Neat and Clean," referring, of course, to the machine and its environment. Whenever any complimentary correspondence is received from a customer commenting on the quality of the work produced or the promptness of shipment, or any other similar matter, the substance of such communications is made known to the men in the shop, if in the judgment of the management such a step will serve to encourage the men and enlist their cooperation.

"MAXI-PAY BONUS PLAN" OF BULLARD MACHINE TOOL CO., BRIDGEPORT, CONNECTICUT [1]

The plan of the Bullard Machine Tool Co., Bridgeport, Conn. in building up its organization successfully, rests on the principles which have been summed up as follows:

Respect and confidence between employer and employee must be established and maintained.

A proper and equitable incentive must be provided for both.

There must be established a measure for determining the rate of wage.

The rate of wage must be definitely related to the energy, skill, experience and knowledge required to perform the work.

The company tells the men frankly that its incentive lies in the demand for its products and the profit which this brings.

This means, of course, that manufacturing costs must be kept down and that manufacturing methods be efficient. For the worker who is employed directly on production, the incentive is divided into three separate and distinct units.

The basis is an hourly-rate of wage, bearing an equitable relation to the energy, skill and knowledge of the individual, as well as to the cost of living. There is also an incentive to prompt, regular, and continued attendance, for only in this way can both sides reap the full benefit of employment. Idle machines not only fail to earn money but are an expense to the company. This ly earnings, and has proved remarkably attractive in every way.

[1] By Fred H. Colvin, Editor, American Machinist. American Machinist 52 : 1137-9. May 27, 1920.

The Maxi-Pay Bonus Plan

It is further recognized that the close application to work with an accompanying increase of skill, and, more than this, the *desire to produce,* merits an additional reward commensurate with the increased output obtained. This is taken care of by what is known as the Bullard maxi-pay production bonus plan, which is based upon the allotment of an established standard time for unit production. This plan provides for the payment of an increasing bonus without limit, for increased efficiency and reduction of time required for the actual performance of the work in hand. The inefficient worker, whether the inefficiency be due to his lack of effort or lack of ability, loses nothing except the opportunity for increased earnings, advancement and retention, as his established hourly-rate is paid without regard to his calculated efficiency.

This plan has proved extremely attractive to the workers and has been highly satisfactory to the management. By it, the worker is financially rewarded for the extra effort and skill required in increasing production, and the management obtains an increased productive capacity from the same plant and equipment, which, of course, means an increased return on its investment.

The hourly-wage-rate is based upon individual productive capacity, the cost of living, and the question of supply and demand. Individual productive capacity bears a paramount relation to the other factors; it directly affects the cost of manufacture and therefore the salability of the product in question. To arrive at an intelligent conclusion by combining these factors requires experience, judgment, and, above all, a fair and equitable mind. Needless to say, this is the crux of the whole situation, and on it the success or failure of such a plan depends. It must be remembered, however, that the

hourly-rate must be sufficiently high to insure a contented state of mind in the worker.

Where Confidence Counts

Critics will immediately point out instances where what seemed to be very liberal bonus plans failed to insure harmony and continued production. Strikes and lockouts have resulted under what appeared to be liberal bonus plans and profit-sharing methods. If, then, these plans succeed in some places and fail in others, we can only draw the conclusion that the success or failure must depend to a considerable extent *on the way in which they are applied* and on the personal element to a very large extent. When any method of management succeeds in the face of difficulties and disturbances in adjoining plants, there can be no question as to the management having established confidence of a square deal in the minds of its men. And this cannot be done by proclamation; it must be the result of actual practice.

Setting Fair Standard Times

This plan necessitates the setting of standard-rates of efficiency which are a direct reflection of the energy, skill, experience and knowledge of the worker, by which each can be judged and from which promotions can be made. Here is where the principle of the square deal plays a very important part. No individual's judgment is infallible, and no hard and fast rules can be entirely successful in preserving harmony and good feeling Men of exceptional experience and character are detailed for the work of setting standard time, this being just the reverse of some former practices, where young and inexperienced college men were chosen for this work.

The management realizes that it is practically impossible for any man, no matter how broad his experience, to figure accurately and equitably in every instance —particularly on complicated work. It is therefore the

policy of the company to put new work, or old work with new equipment, into operation on the basis of a trial time. In this connection it is thoroughly understood that the management relies upon the operator to put forth his best effort and to be absolutely on the level. Knowing that the management plays fair with him, the workman responds in practically every instance, and it is the exceptional case where any attempt to influence time setting by soldiering has been attempted.

Knowing that it is out of the question to expect perfection in time setting or anything else, means are provided for making special adjustments which may be found necessary. Conditions occasionally develop which are entirely beyond the control of the operator or the time setter, such as exceptionally hard castings, a run of castings or other material which must be rejected for defects which appear only after machining, and sundry other causes. On the other hand, the confidence that a square deal is always forthcoming makes it possible to adjust standard times downward as well as upward when equity demands.

Efficiency of the Average Man

The system of figuring time assumes that the average man on a work-day basis, and with average application, will be 75 per cent efficient, while a high-grade man, under the same conditions, will produce approximately 100 per cent. This enables the average man to earn the hourly-rate of the class to which he belongs, and for every 1 per cent he increases his efficiency over 75 per cent he obtains a similar increase in wages. Thus, the 100 per cent man gets 25 per cent bonus on his wages, this bonus being paid monthly.

There are two exceptionally good features about the whole plan, especially about the way in which it has worked. It has helped to make men contented when all of the rest of the city was in more or less turmoil, and

it has increased production and reduced the cost of manufacture in a manner which is extremely gratifying to the management. The figures are almost unbelievable and would make many shop managers green with envy.

The average man or the man with 75 per cent efficiency must maintain this in order to be considered a desirable addition to the working force. For promotion from this class to the one higher, he must attain an average efficiency of 90 per cent for three months. An average efficiency of 100 per cent places the worker in the highest class, which, of course, carries the highest hourly-rate. In order to maintain standing, the workman must keep his average performance up to the percentage of efficiency, required for that class, demotion after a reasonable period being the very natural penalty. By this method both promotion and demotion are automatically controlled by the individual's efficiency record and not by the whim of any individual.

Subforemen, leaders in charge of working gangs of mechanics on repair and similar work, are in a separate class, and are rated at a somewhat higher figure than the 100 per cent workers. This group is made up of men with wide experience and employees of long standing, and from them, foremen and shop executives, so far as possible, are selected.

BONUS PLANS FOR TRUCK DRIVERS[1]

NOTE—The following article on "Bonus Plans for Truck Drivers" does not confine itself entirely to the subject of Production Bonus Systems, but is given here because of its completeness.—*Editor.*

FOUR TYPES OF BONUSES

Truck bonus plans divide themselves naturally into four classes, according to the results which each is designed to accomplish.

[1] By Harold P. Gould, Chairman, Truck Owners Conference, Chicago. 100%. p. 123-8. June, 1919. p. 121-32. July, 1919.

First and most complete is the combined production and economy bonus (B1) either in the payment of cash, or the issuance of credit rating.

The second class (B2) is the production bonus. Subdividing our examples according to methods of payment, we find one by commission, two by piece-work, three by bonus for exceeding a standard, either an individual or a pooled bonus.

The third class (B3) includes economy bonus plans for the following or similar purposes:

1. Lowering per mile cost
2. Increasing tire mileage
3. Decreasing spring breakage
4. Decreasing accidents
5. Increasing gasoline mileage
6. Good behavior
7. Regular attendance
8. Not getting stuck on the road
9. Keeping the car out of the repair shop.

The fourth class (B4) comprises service bonus plans:

1. Yearly bonuses, distributed at Christmas time, or bonuses at other infrequent intervals
2. Yearly distribution plus a saving feature
3. Regular wages rising $1 per week each month for period of months.

While these four divisions do not cover all possible bonus plans for truck operation, they do cover all those studied or discovered by this organization. We believe that their classification, and similar classification of additional plans as they are discovered will simplify greatly the study of truck bonus plans as a whole, and allow better choice on the part of the prospective user of that plan or several plans that can be worked into his business to the best advantage.

THE FIRST BONUS PLAN

The first bonus plan of which we have any record is the bonus which the Western Fuel Company of Chicago

paid C. E. Timroth, President of the Timroth Motor Trucking Company, in 1899 twenty years ago.

Mr. Timroth drove three horses hauling coal to the County Hospital for $21 a week, with a basic-wage for a certain number of tons and 20 cents a ton for every ton hauled above that number. He hauled an average of 42 tons a day for a solid year, and averaged between $155 and $160 a month.

B1—Combined Production and Economy Bonus

The Timken-Detroit Axle Company of Detroit have worked out what is perhaps the most complete combined production and economy bonus in use in the country today, because it is based upon the savings in cost per ton-mile.

George W. Veale, Director of the Department of Standards of this company, after a thorough study of the cost records of the Timken Company, established an average cost per ton mile as a standard, finally determined at 8 cents per ton mile.

Half of the saving under 8 cents per ton mile, it was agreed was to go to the Timken Company and half to the driver and dispatcher, in the proportion of 40 per cent of the saving to the driver and 10 per cent to the dispatcher or garage foreman.

Covering a period of fifteen months' operation, this bonus accomplished remarkable results including, in the case of the best truck, No. 3, a ton mile gain of 99.9 per cent with a cost per ton mile decrease of 64.7 per cent—a truly remarkable saving.

Truck No. 2 increased its ton milage 104 per cent with a saving in cost of 43.3 per cent. In the whole fleet the ton mile increase was 70 per cent in August 1917, with 30 per cent more capacity of trucks than in June 1916.

The average per cent of operating time for a single month has reached the maximum figure of 77.3 per cent

counting as idle time all time when the truck is not actually carrying a load; thus idle time includes all the time the truck is out of service and all the time lost for loading and unloading.

The bonus is payable semi-annually as the heavy expense in the second or third month may wipe out some of the saving accruing to the driver's bonus in the first month.

The careful check-up on cost necessitated by having to give the drivers a square deal in the fair distribution of the bonus, the incentive given the drivers to load and get-away more promptly which increases ton mileage and lowers cost, in addition to opportunity given the management to distribute the praise for lower cost where the credit is really due, and to pick and standardize upon the individual truck units which are best adapted to Timken service, have all been additional factors in the great success of this plan.

The Credit System

Harold B. Weaver, while Chief Engineer of the Chicago Motor Bus Company, installed what is known as the credit system a most complete merit and demerit system for increasing the hourly-rate of pay of the three hundred and sixty-five employees of that Company, in addition granting them an interest in the profits of the business after they have been awarded a certain number of bonus credits.

Twenty-five credits are granted for each month of satisfactory service with the company, and after the earning of one hundred and fifty credits, or six months' regular service, the employee is entiled to a cent an hour increase in pay.

Extra bonus credits are granted on the judgment of a committee and the management, for particularly good service, or efficient work, which brings the date of the raise in pay in less than six months.

The book of rules, containing a schedule of the

demerits which are the penalty for their infraction, is printed and distributed to each man.

Such demerits detract from the credits of a man and defer the time of the cent an hour raise in pay. In other words, the automatic increase in pay is determined solely by each man's merits and demerits record.

The records of all the men are posted on a bulletin board near the recreation room where all may read them. Not only does each man know exactly where he stands in relation to every other man in the company, but the management can tell at a glance just which men are progressing the fastest, which ones have been longest in the employ of the company, and which have the fewest demerits for breaking rules.

This is the combined bonus, on the basis of merits, for both length of service and quality of service, as well as for both production and economy.

In order that there may be no unfairness in the imposition of discounts, a written definition of an offense is made out and if the man wishes to appeal the decision, the case is settled by the superintendent or is referred to a Board of Appeals, made up of three men who have had nothing to do with the happenings in question.

The credit system allows the use of bonus credits for group or pool action. For instance, this company gave the whole organization, down to the last man in the shop, credit for every fiftieth of a mile they went up per gallon of gas in the operation of their sixty-five busses on the Chicago highway. They went up 3 cents to the mile. The cost monthly in payroll was $300. and the saving in gasoline $1200, making a net earning to the company of $900—which is good business.

In the same way the company gave the whole organization bonus credits for a reduction of accidents on a mileage basis.

One of the big advantages to the company is the fairness with which all the men are treated and the reduction of turnover due to each man's certain knowledge that he will receive increased pay, if he performs continuous and faithful service.

The profit-sharing plan comes into effect after a man has fifteen hundred credits, which may take from two to five years, depending upon the man's ability and faithfulness. When he participates in the earnings of the company he does so at the same dividend rate earned by the common stock, his yearly salary being used as the basis of figuring his dividend.

Bonus Based on Miles Traveled, with Gas Consumption Provision

The DeFrain Sand Company of Philadelphia based its bonus first on the percentage of actual operating time shown on recording device charts, to the standard or allowed time of six minutes per mile, with ten minutes allowed on each trip for loading and unloading.

For instance, if the time taken per mile is six and one-half minutes in any week, the driver is considered to have made 92 per cent efficiency, found by dividing the standard time six minutes by the actual time six and one-half minutes.

To prevent waste of gasoline in the effort to earn the mileage bonus, the company added a close check on mileage per gallon. The standard miles per gallon was taken as five, and if the actual miles per gallon in the week taken above was five and five tenths miles the driver was considered as 110 per cent efficient in gasoline consumption.

The average efficiency, or half the two figures, in the example above, 92 + 110, in this case would be 101 per cent.

A bonus of $2 per week was paid to every driver with 80 per cent to 90 per cent efficiency, $3 per week

to every one with 90 per cent to 100 per cent, and $4 per week to each one showing over 100 per cent, as in the example we have taken.

Production is paid for in miles in this case, but not in tonnage hauled, which leaves this plan open to the criticism that it pays the driver better to get away promptly and run at low gas consumption, than to do profitable work for the owner by carrying a full load every time.

Some offset of this kind seems necessary to insure economy when production increases are paid for with a bonus, or to insure production increases when economy is paid for with a bonus.

The examples of combined production and economy bonus given here seem to accomplish this dual purpose pretty well, although executive supervision and care will provide the necessary check in most cases when simple production or economy bonuses are used.

B2—The Production Bonus

Production bonuses may be subdivided under the following heads:

1. Commission
2. Piece-work
3. Bonus for exceeding standard task
   (a) Individual
   (b) Pooled

Straight production bonuses to increase the amount produced over the standard task are more common than any other type of bonus plans. That hardly any two of those discovered are alike in many particulars, shows the various applications possible with this type of bonus, but almost every one of them is successful in doing what it set out to accomplish.

Straight Commission Bonus

The General Storage & Cartage Company of Detroit pay their truck drivers a straight commission of 20 per

cent on the earnings of the truck, which has put every driver into business for himself.

This carries out the simple principle upon which salesmen and various other workers whose efforts directly affect the production of the business are paid, but it is the only thoroughly worked out commission plan of truck driver payment we can find in this country.

The average earning per truck per day is $35; subtracting $7 salary, this leaves $28 net per truck per day for an average load capacity of five tons. One truck earns as high as $63 in a single day, which nets that driver $12.60 and leaves the company $50.40 for expenses and profits.

Only 10 per cent of the total income on the truck is really paid as a bonus because half the average sum, or $3.50 per day, would be the union scale paid the drivers anyway, regardless of production. The guaranteed day-rate of $4 a day is assured every driver in case his commission does not run over that sum.

The bonus has been responsible for a 50 per cent increase in earnings, however, which shows how profitable an investment this is for the company.

This plan cuts waiting time down absolutely to the minimum because the drivers earn twice as much when they are running as they do when the truck is standing idle waiting for loading or unloading.

They devise new loading methods and even convince customers to put in loading aids without expense to the cartage company. Also they are keen to keep the trucks out of the repair shop.

The plan has done away with the shortage of labor. In fact, the company has a waiting list of drivers. Higher pay and satisfied drivers mean, of course, better service to the customer and increased business to the company.

The commission plan or piece-work plan has been extended to the loaders and unloaders in the warehouse, for taking news print paper out of the car and rolling it into the warehouse; they are paid 13 cents a ton for

unloading the rolls, and receive 10 cents for taking them out of the warehouse and loading them on the truck.

Another immediate effect upon the drivers was to make them desirous to carry trailers, in order to increase their tonnage and commission.

A more complete discussion of this General Storage and Cartage Company bonus plan has appeared in 100% Motor Truck Section.

Commission Basis and Profit-Sharing

The Yellow Cab Company of Chicago pay their cab drivers on a commission basis, supplemented by a form of profit-sharing.

Their drivers now receive 23 per cent of all fares brought in through regular orders to the company, 18 per cent of fares on pickups, and 50 per cent of extra fares.

Economy of gas consumption is assured by allowing the drivers to buy their own gas from the company at 11 cents per gallon, practically half price, at the same time that a commission on the earnings is allowed.

The corporation of its own free will determined to give its employees 35 per cent of its profits in the form of semi-annual dividends and bonuses, to be distributed according to three classifications of the employees, classes A, B, and C, as determined by merits and demerits awarded according to the quality of service they render.

Cash dividends prorated according to total earnings, the percentages being established by the class, are given to all those in service for five out of the six months dividend period.

Each month an amount of common stock equal to 10 per cent of an employee's commission or salary is set aside, but a stock certificate is issued to each man for a smaller percentage than this amount determined by his class, while the remainder of the 10 per cent in each case goes into a war bonus fund.

The certificates are translatable into stock at the end of each dividend period.

The war bonus fund is divided at the end of each dividend period among the three classes in proportion to their respective holdings of certificates.

There are excellent provisions for greater reward for continuous service, for the award of extra merits, for the fair handling of demerits, which are too long to be given in full.

A Trailer Bonus

The Dunbar Stone Company, River Rouge, Michigan, has a simple trailer bonus plan. Every time a driver takes out a trailer he gets a brass check; he accumulates these until pay day, when he turns them in and gets a stipulated amount of money for each in addition to his regular wages.

All men do not like to carry a trailer because it is a little more trouble, so that all who do get so much per hour extra all through the month, in addition to the bonus. They are considered in a class a little above the regular truck drivers, for they carry a helper while the others do not.

The Emerson Bonus

Joseph T. Ryerson & Son, steel warehouse organization, pay their loading gang on the Emerson bonus curve for meeting standard time in loading their trucks; the result was that loading time was cut within the first three months' operation of the bonus from one hour to one-half hour per load.

On two trips per day for twenty-five trucks this would average twenty-five trucking hours saving, or something like $60 to $75 a day money saving to the company.

The earnings of the men and their standings in comparison to their fellow workers are posted on a blackboard where all the men can read it. The bonus is figured daily, itemized in clear monthly statements to each man so that he can figure out just what his earnings

have been each day and be sure that no mistakes have been made in the office.

If trucks cost from $2 to $3 per hour, the institution of a bonus plan which will save one hour a day is a worth-while investment of time and money for the concern seeking maximum results.

Bonus for Freight Hauling

The Michigan Drug Company of Detroit at one time hired its freight hauled to and from the freight depots by outside haulage companies, while it employed its own ten trucks on city delivery. As the price of outside haulage advanced from 2 cents a hundred to 5 cents, it was agreed something must be done.

The drivers of their trucks were then offered a bonus approximating 30 per cent of the savings effected if they would haul the freight themselves, in addition to their delivery work.

In one year when the company would have paid out $6,000, an average of about $120 a week for this service, the bonus amounted to approximately $2,000, divided among eight drivers, in proportion to the tonnage each hauled, and two shippers.

The gross saving to the company, not counting wear and tear on equipment, and gasoline, was therefore $4,000. When cartage costs further advanced to 7 cents a hundred, this saving became proportionately greater.

Changed conditions made a bonus for this work unnecessary, and a straight bonus of not exceeding $4 a week is paid each driver at the discretion of the traffic manager, for keeping his trucks in the running.

Pool Bonus for Packers and Shippers

Parke, Davis & Company of Detroit have set standard accomplishments for packing and preparing for the load and loading on the basis of hundreds of pounds handled per hour. For instance, three hundred pounds per man

per hour is the standard for packing domestic goods, two hundred pounds per hour for foreign goods, and six hundred pounds per hour for trucking (weighing, marking, stacking, loading, etc.).

The bonus on accomplishments over these standards for the employees participating are pooled, and all share alike. This bonus has not only markedly increased individual production, but the pooled feature has made the slow workers answerable to the quicker workers for picking up in their speed, and has acted as an added incentive.

Freight Hauling Bonus

Another bonus in use by Parke, Davis & Company is a pooled production bonus for hauling freight. It was formerly applied to outside teamsters drawing the union wage from their own bosses, but in the near future will be applied with a changed standard to drivers of their own trucks who will handle the freight haulage.

A fair day's haulage was considerd to be twenty-four thousand pounds, carried in three or four loads. The excessive loading time required by this company's miscellaneous goods makes this figure lower than a similar standard in another business.

The bonus for exceeding this standard was 12 cents per hundred pounds. Four men, working full time, participated equally in one month's pooled bonus, at the rate of $9.59 each—and this was a poor month. A man who worked less than full time would be paid a proportionately smaller share.

Bonuses on Number of Loads

In the National Tube Company operation at McKeesport, Pennsylvania, during the coal shortage, the management set a certain bonus per load for each load above the standard number of loads expected of the different trucks, depending upon the distance of their haul from the mines to the plant.

Two hundred and fifty trucks were engaged in haul-

ing coal to keep the plant in operation for more than a year and the haulage records were remarkable, partly because of the bonus plan and partly because of the intensive time studies made as a basis for showing each operator how to save a minute here or a minute there, and so make more trips during the day.

Other Production Bonuses

The Hammond Lumber Company offered their men a certain wage for each thousand feet of lumber cut and hauled over a number set as standard, for a day, with very good results.

Emil Schumann of Pittsburgh tried paying his drivers $30 a week and offered to pay them a commission of 10 per cent on all sales of his truck service made by them on the outside, without sacrificing their regular hauling work.

One driver brought in two new customers the first two weeks. One day a man on the street inquired for someone to do some hauling for him, and the driver earned $2 commission on the $20 job that resulted.

The Central Stamping Company of Newark, N.J. when T. D. Pratt had charge of their motor trucks paid the driver a day-rate of $3 per day, and credited each man with a certain sum per ton mile haulage.

This allowed a man to earn as high as $9 a day, and at the same time the cost per ton mile must be cut to 6 cents disregarding the ferry charge, which was 2 cents, under the freight cost per ton mile, a 25 per cent saving over freight.

Henry L. Gantt twelve years ago installed a truck bonus plan in Rhode Island with more than the usual care and accuracy.

Most of the operation took place within the plant's yard covering a large area. The regular planning department scheduled the work on a twenty-four hour basis so that approximately at four o'clock in the afternoon the truck foreman knew the materials from each department

that were to be required in each storehouse in the morning to start work.

A definite card of instructions was issued to each driver in that yard before he left at night, telling him where to report, what quantity and class of goods he was to take from the loading point and where to deliver it. Opposite each item on the card of instructions was the time allowed for doing the work.

If he accomplished his task in the time set, or in less than the time set, he was paid a percentage upon the time saved at the guaranteed day-rate whether he earned the bonus or not. The same general plan is in operation today.

A production bonus is that of the Campbell Coal Company of Atlanta, Ga., who base a simple bonus plan on the number and duration of stops, as ascertained by recording devices. Supplementing this information with accurate studies of loading and unloading time, they are able to gauge the allowable "time lost on the road" for the various runs.

Unless the drivers report delays of over two minutes, the time is charged up against them. For each day that the driver has no such "time lost," he is given a star, representing a perfect record.

For six stars, awarded for a full week's work, a driver is given a bonus of $1.25. Overtime is paid for at the rate of 25 cents an hour, but lost time is deducted before overtime is paid.

If a man makes less than six stars, the bonus is distributed on the basis of $1 a week, or 16⅔ cents for each single star.

Nearly every one of the drivers is receiving the full $1.25 a week.

The Economy Bonus (B3)

The summary of the Economy Bonus Plans (B3) includes plans for the following purposes:

1. Lowering per mile cost
2. Increasing tire milage
3. Decreasing spring breakage
4. Decreasing accidents
5. Increasing gasoline milage
6. Good behavior
7. Regular attendance
8. Not getting stuck on the road
9. Keeping car out of repair shop
10. Reducing customer complaints

Lowering Per Mile Costs

Ward & Ward, Inc., of Buffalo, have worked out a very successful bonus plan based on the cost of operation per mile. With the allowed cost at 7 cents a mile, they give the driver all the saving he can effect on this standard and deduct from his bonus the cost of all accidents unless proved to be outside his control.

Production remains at a predetermined standard because the deliveries are made to customers on fixed routes, under very nearly standard conditions of roads and loads; time does not enter in, because if the driver takes longer than he should he is simply running his day longer without cost to the company. The deduction for accidents has been carefully made under Mr. Ward's personal supervision.

First of all, a fair wage is paid; the man starts at $20 a week, the next month receives $22 a week and the sixth month $24.

In figuring cost per mile on these one and one-half ton trucks, garage cost, depreciation and insurance were not included and it came to gas, oil and tires.

Bonus payments are made every four months. Three drivers earned at the last distribution $75, $50, and $30 respectively; three times that sum for twelve months is a very respectable bonus earning.

Better satisfied drivers, more careful with their trucks, and working for the interest of the company, as well as

lower maintenance cost on the cars were the good results of the use of this bonus plan. Three cars were run nearly a thousand miles a month for eleven months each and were laid up only a total of five days for repairs.

Four Combined Bonuses

The Gilman Trucking Company of Cleveland offer their drivers four simple bonus payments of $5 each for accomplishing four different results, as follows:

1. For regular attendance and no absence without excuse previously granted by the foreman.
2. For good behavior
3. For not getting stuck on the road
4. For keeping the truck out of the shop in working hours

This made it possible for each driver to earn $20 per month for exercising proper care, and resulted in lower cost and greater production to the company.

Spring and Tire Bonus

McCrady Brothers, in the coal and building material business in Pittsburgh, are operating two simple bonus plans with excellent results, the first on tires, and the second on springs.

Each driver is offered $1 for each thousand miles he runs his truck over the maker's guaranteed seven thousand miles, and $2 for each thousand miles he runs his duals, or large single tires on the rear wheels, over the maker's guarantee.

When a driver runs his tires fourteen thousand miles, for instance, he earns $7 bonus on each front wheel and $14 for each rear wheel, a total of $42 bonus.

The good results are not only satisfied drivers and increased mileage on tires, for when the rear tires are so handled as to run more miles, it stands to reason that the differential will run more miles and the engine will run further without an overhaul. Careful driving means longer wear on every part of the machine.

A 10 per cent overload is all that is allowed on these

trucks, and the drivers have no desire to put on more load or to speed the trucks because it is working to their detriment in the tire bonus.

One driver that earned a bonus for running his front tires seven thousand miles over the guaranteed distance, hauled seven hundred and seventy tons more in a three months' contest than another driver with a lower tire mileage in the same time, proving that the economy bonus on tires did not lessen the production of the truck.

When William McCrady offered his drivers a $3 bonus for every month in which no springs were broken, he did it to meet a serious situation, for on one truck they were averaging two broken springs a month at a cost of $20 each, or $40. Immediately after this bonus was offered the worst truck in the fleet ran two months without a broken spring.

Again, there was reflected a benefit to the rest of the truck, because the breaking of the spring means the breaking of other parts at the same time. The more careful driving to earn the spring bonus pays hundreds of dollars each year on a machine in lessened repair bills on other parts of the truck.

Joseph Horne Company of Pittsburgh has developed several effective economy bonus plans.

The first bonus is an efficiency bonus, figured by crediting for good conduct and good mileage and debiting the driver for failures and complaints registered by customers with the complaint department.

The second bonus is given for the care of the car. No repairs are made without the authorization of Defect Cards, initialed by the drivers, so that this item as affecting their earnings can be kept in the control of the driver to a certain extent.

The third bonus is for economy in tire cost, or, in other words, for high tire mileage.

The fourth bonus is the half-yearly no-accident bonus. The driver forfeits his whole bonus if he has an accident

within the six months' period, with one exception: he is not responsible if his car, left standing empty at the curb, is hit by another vehicle.

These four bonus plans in conjunction have been very successful in rewarding the better operators, causing the poorer men to strive for better records and the consequent better earning.

Wilson & Co. of Chicago have recently inaugurated a plan of giving prizes for tire economy. They give the driver 30 per cent of the "gravy" on sets of tires or single tires for number of miles run over ten thousand, guarding against damage to the rims by the regulation that tires must be changed when worn down to within ¾ inch of the steel base.

Pooled No-Accident Bonus

Tiffany Studios of New York have a simple pooled no-accident bonus for the drivers and helpers on their trucks. They feel that alertness and watchfulness on the part of the helpers will tend in great measure to prevent accidents, so they are allowed the same bonus as the drivers.

Each man is allowed a bonus at the rate of $10 a month, payable twice a year, or $60 every six months.

It is understood that if an accident occurs through carelessness on the part of any of the drivers or helpers, its cost will be deducted from the bonus fund, so that all of the drivers and helpers will be affected. This makes all of the men take an interest in preventing accidents, not only to themselves, but to each other.

The company carries insurance protecting it against damage to other cars, but they have so few accidents that they have dropped the insurance covering their own trucks and by carrying it themselves, are ahead on the deal.

They have had so few accidents which their insurance has not adequately covered that they have not as

yet made any deductions from the bonus account, so that the men have always received their $10 per month in full.

If any man leaves their employ he forfeits his interest in the unpaid bonus fund, and it is distributed among the remaining men. This helps to keep the men satisfied with their positions and to hold them on the job.

Plan Not Given a Fair Trial

The Miller North Broad Storage Company of Philadelphia operated a similar no-accident bonus plan for three months during the dullest part of their season.

This was an unfortunate time to test it out, by reason of the fact that they were unable at all times to make up the expenses incurred through accidents as promptly as they should have done in a busier season, and it tended to throw discredit upon the bonus.

At the end of three months when they expected to get the greatest benefit from the plan, conditions compelled them to make a substantial raise in the wage of the men, and because of certain weaknesses in the bonus plan, they felt it prudent at the time to abandon it.

Paper Credit Bonus

Parke, Davis & Company of Detroit have a simple economy bonus in use for the drivers of their eight city delivery trucks. Each month that a driver has no accident, whether his own or another driver's fault—and the loss of the smallest piece of equipment is put in the category of accidents—he receives a $5 paper credit bonus, payable in cash on the first of May each year.

For the least or the greatest accident in a month a driver forfeits his entire $5 credit. A nightly inspection of the cars at their garage carefully checks up the condition of the machines and their equipment.

The excellent effect of this plan may be seen from a study of the May, 1919, distribution: four drivers received the full amount of $60, one man received $50,

and three $55. One driver with one accident charged against him delivers in the thick of traffic all the year round.

This is the more remarkable when the comprehensiveness of the conditions covered by the bonus is remembered. The four perfect records mean that four cars had suffered no damage whatever from accident, and that they had lost not so much as a wrench during the year's service.

The Jacob Van Skiver Company of Philadelphia have a bonus, or demerit system, for reducing maintenance cost on their fleet of trucks. They pay their drivers $30 a week if they keep the trucks on the road, but if for any reason a truck is kept in the garage, the driver is penalized $1, or has his pay reduced from $5 to $4 per day until his truck is out again. He may be sent out on another truck if he is not needed to repair his own truck, but must stand the cut in salary just the same.

Whereas the drivers in the past often found something the matter with their cars in bad weather to keep them in the garage, they changed their minds and decided that they would rather drive outside than pay a dollar for the privilege of staying in.

The Credit System for Economy

The Chicago Motor Bus Company uses its debit and credit system as a pooled bonus plan to increase gasoline mileage, in one month paying out $300 in increased salaries to secure a saving of $1,200 in gasoline, and in another case, paying all the employees from a pooled monthly bonus for the reduction of accidents on a mileage basis.

The Service Bonus (B4)

Service bonuses can hardly be classified with production and economy, or combined bonus plans and credit systems, although they have a definite effect in reducing

the labor turnover and in making drivers satisfied with their jobs.

John Wanamaker has a simple bonus plan of giving the drivers $50 for every year of continuous service, and helpers $35 for a year of continuous service, in addition to the regular welfare provisions made for all the employees of the Wanamaker organization.

Strawbridge & Clothier of Philadelphia, another large retail store, has a yearly bonus plan for drivers and helpers.

The Fair, Chicago, offers a two weeks' vacation with full pay after a full year's service, in addition to a Christmas bonus of $75 after one year's service, $40 after six months' service, and $25 after three months' service.

The Crane Company, as is well known, gives every employee a Christmas present of 10 per cent of his yearly wages, which, at the customary wage of truck drivers, would amount to approximately $150 a year.

This plan is criticised by many as being nothing more than a deferred salary payment, since the 10 per cent bonus is counted on by all the employees when considering whether or not they will leave the company for higher immediate salary somewhere else. It certainly has nothing to do with the productivity or the faithful performance of scheduled duties by the employees individually.

Yearly Bonus With Saving Feature

The Walter J. Crowder Company of Philadelphia have met their labor problem by a systematic campaign to cooperate with their drivers. They formed an employees' organization to promote good fellowship and interest in the company, and instituted a simple bonus plan.

Each of the drivers pays 50 cents a month in dues and the company puts 50 cents with it for a Christmas saving fund; then, just before Christmas, each man receives a check for $12 from the company.

Systematic Raise in Wages

The Erie Service Company of Buffalo find that a scheduled raise in wages keeps the drivers satisfied and works out well for the company.

They start a driver out at $20 a week, at the end of each month give him a raise of $1 per week until in six month's time his wage is $26 a week. In addition they pay 40 cents an hour for overtime. The assured increase each month tends to keep the drivers satisfied until they are getting the maximum; from then on they stick to keep up that maximum income.

Basis for Bonuses Must Vary With Conditions

It is easy to vary the basis of the bonus plans to suit the conditions in any particular business. If a business, for instance, is delivering to a large number of customers on long routes, it would be foolish to try to pay a bonus on the ton mile basis, because the ton mileage in that case would be very difficult to obtain and not worth the trouble. Per package delivered and the tons delivered in the total trip, number of calls made, or some other such basis should be used in such a case.

The Pooled Bonus

Pooled bonuses have been very successful in certain factories where they have been tried, because as high as seven hundred operatives in a single department or plant can be placed upon a pooled or combined bonus that rewards every employee in the group for production records or economies of that group.

During the war the Goodrich Tire & Rubber Company had as high as seven hundred employees in the balloon department, sharing a pooled bonus on the following basis: Every piece of work produced was credited to the bonus account at a predetermined piece-rate price. The wages for the workers were deducted

in total from this fund and the balance distributed among the workers, all seven hundred of them, in proportion to their wages.

There are many cases where truck operators cannot in fairness accept a certain bonus standard and reward for their different drivers without working injustice upon the men who have the harder route or the more expensive runs for low production. The heavy and expensive run may be the run of lower production also through the exigencies of the business.

In this case a pooled bonus is suggested that credits all the drivers in a pool with the earnings of the fleet as a whole over previous earnings or earnings agreed upon as standard and, after the wages are deducted, leaves a bonus fund to be divided among the men according to the wages earned. The men will see to it in this kind of an arrangement that no one of the men reduces the profits of the others in the group by his laziness or poor methods.

The pool method has been used successfully by the Chicago Motor Bus Company under the credit system, both in the machine repair shop and in the gasoline economy bonus.

Similar results are shown by the Tiffany Studios in their no-accident bonus.

While not having all the advantages of a bonus set upon individual records and paid to the drivers in proportion to their merit as in the Timken plan, the pooled bonus has other advantages not possessed by the individual bonus, because of the close supervision of the poorer workers by the better workers, which the individual system does not so much inspire. It is very much easier in many cases to install the pooled bonus.

Objections to Production and Economy Bonuses

Mr. H. H. Ball, of the Molstedt Lumber & Coal Company, New Rochelle, N.Y., stated that his company put

in a bonus plan some time ago based on the number of tons of coal that his driver could deliver.

Not having a proper check or allowance for extra damage to the equipment, he found that it was only a short time before he had to take the extra help he saved in the production end, and put them in the repair department. He thinks that the result was just simply human nature on the part of the drivers, who got paid to produce without being penalized for causing extra repairing.

Refuting Objections to an Economy Bonus

To overcome the objection of lower economy when a production bonus is used, it is necessary for the management to watch an adequate repair cost report of the economy feature, and to keep the repair costs down by the proper inspection, supervision and discipline.

On the other hand, when an economy bonus is used, it is up to the management to install the proper daily service records and monthly summaries of production, and to keep up production by the same methods of supervision and discipline.

Sometimes it is easier to pay a bonus for production and keep down the cost and sometimes it is easier to pay a bonus to keep down the cost, and maintain production by these other methods.

The supervision of good foremen is just as necessary to keep up the production of trucks under an economy bonus as it is on a bricklaying job, a street laborers' gang, or any other kind of work. What truck operators often lack is the proper supervision and the executive management to get the most out of their investiment.

Both of these objections are hardly chargeable to the production or economy bonuses, although the bonus plans bring out the lack of proper supervision in the truck operator's company and thereby suffer this

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criticism when it really should not be directed against the bonus but against slack methods of operation with which the bonus alone cannot cope.

Labor Troubles and Bonus Plans

The misuse of any good idea or plan will naturally bring trouble, though the proper use of the same plan will be of great benefit.

Before installing a bonus plan it is advisable to get the ideas of the best men among the drivers and foremen, as to its probable reception by the men as a whole. It is then necessary to talk with the men individually or in a group at once, or gradually as the bonus is extended to cover each truck, in order to tell them the idea and justice of the whole plan.

William McCrady made the statement at the New York Truck Owners Conference that he believed in paying the good drivers the best wages. His company lets no one in the Pittsburgh district pay higher wages than they, but they give the drivers a bonus for their added efforts.

Any bonus or profit-sharing plans given the men in place of fair wages only produce trouble, and lose their power as an incentive. The management should be willing to pay good wages for good work of the average or better than the average men.

But, when paying bonuses, the management has a right to expect extra effort and extra attention to the interests of the company which these same average men would not give to the ordinary employer and would not give to the bonus employer if he did not pay them this incentive.

It should be explained that the extra money to be paid each driver in the bonus is not there in the treasury now waiting to be paid him, but will be earned by his better work which will justify the promised bonus. In other words, he makes his own bonus by doing better work.

This knocks out that common fallacy of ignorant laboring men that if the boss has the money to pay them a bonus in cash at such and such an interval, he has it to pay in higher wages. Thereupon the men join the forces that have put the idea into their heads and demand a raise in wages without offering to increase production in return.

This is what happened when the Molstedt Lumber & Coal Company of New Rochelle, N.Y., attempted the installation of a production bonus on the tons of coal hauled. The same thing happened when a large manufacturer employing ten or fifteen thousand men announced a profit-sharing plan.

The men struck for higher wages because they did not properly understand the justice of a plan which made it possible for them to earn for themselves higher wages in the form of bonuses, but which guaranteed no higher wages unless the extra money were first earned.

Then there are dangers of improper application which common sense and adaptability of the management can correct, or foresee and avoid.

Conclusion

With these thirty-six examples of the four types of bonus plans involving production, economy and service, we have enough successful plans to guarantee the company wishing to put in a bonus for truck drivers a fairly successful experience, if at the start they are careful to avoid the obvious mistakes of others.

These examples show that bonuses correctly applied enable companies to secure better cooperation from their drivers, to lower their truck costs and to improve their service.

CHAPTER VII

BONUSES FOR IMPROVED QUALITY

Bonuses offered specifically for improved quality in a product are rare; this section, therefore, gives only a few examples. It is obvious that bonuses for improved production assume that the product must necessarily pass inspection as to its quality.

Such bonuses are particularly applicable in cases where a very high grade of product is desired and where quantity production is not of first importance.

ELECTRIC STORAGE BATTERY COMPANY, PHILADELPHIA[1]

One of our operations consists of slotting hollow rubber tubes, thirty-six inches long, with a series of fine saw cuts at right angles to the length. There are approximately one thousand cuts to each tube.

The operation is performed by automatic slotting machines, which are operated by girls. The girl's duties are to put tubes in the machine, to take finished tubes out and to stop the machine and report to the machine adjuster whenever the machines are not running properly. One machine adjuster tends to adjusting and changing saws for each row of eight machines.

Originally each girl operated two machines and was paid on a straight day-work basis. Although the actual time of putting in and taking out the tubes consumed only one-quarter of her time, it was not considered advisable for a girl to operate more than two machines,

[1] By R. I. Merwin, Assistant to Superintendent of The Electric Storage Battery Co., Philadelphia. 100%. May, 1920.

but rather to allow plenty of time for her to handle the tubes carefully and watch for defects, because the cost of each tube was a very appreciable amount, and it was much better to produce a small number of perfect tubes than to spoil a lot in an endeavor to produce a large amount.

In spite of the fact that the operators were allowed so much time and in spite of the fact that every effort was made to impress upon them the importance of quality above everything else, the percentage of good tubes produced only amounted to 70 per cent of the number of tubes issued.

We decided to offer a premium for attaining a high percentage of good work.

The Quality Premium

Each operator was therefore charged with the number of tubes issued to her each day and credited with the number of perfect tubes passed by the inspector. The premium was paid according to the following schedule:

Good tubes per day	Premium per day
75 per cent to 80 per cent	5 cents
81 per cent to 85 per cent	15 cents
86 per cent to 90 per cent	30 cents
91 per cent to 95 per cent	50 cents
Over 95 per cent	75 cents

This premium was paid in addition to the straight time rate per day. No premium was paid unless the production reached a certain minimum, but this figure was low enough to be very easily reached.

It will be noticed that the premium was low for the low percentages, but meant a very substantial increase in pay for attaining a high percentage, and we were convinced that a high percentage could be reached.

The machine adjusters were also paid a daily premium equivalent to the average daily premium earned

by the girls operating the machines under their supervision.

By means of this premium an inducement was offered to the operators and machine adjusters to produce good work.

The result was an immediate improvement in the percentage of good tubes. It has gradually improved until today practically all of the experienced operators are exceeding the 95 per cent mark and are earning a daily premium of 75 cents. The average for the entire department is between 90 per cent and 95 per cent, depending upon the number of new operators in the department.

Increasing Production

After the quality premium had been in effect for some time, and it was seen how easy it was to reach a high percentage of good tubes, it also became evident that a greater number of tubes could be produced per operator without sacrificing quality or making the work too hard for the operator.

An additional premium was therefore offered for any increase in production over the average which had been produced up to that time. This premium was paid at the rate of so much per tube for all tubes in excess of the old average per day.

At first the operators did not take kindly to this plan, but before very long one or two went after the increased production and the rest, seeing how easy it was, soon followed. Each operator now operates four machines and turns out over twice as much work as before, without any loss in quality.

The introduction of the quality premium was thus directly responsible for increasing the percentage of good tubes from 70 per cent to over 90 per cent, and indirectly responsible for increasing production over 100 per cent.

DUFF MANUFACTURING COMPANY, PITTSBURGH[1]

As generally applied, a bonus system is based on quantity rather than quality. On the other hand, heat treatment is preeminently a quality operation, and in connecting a bonus system with it every care must be taken to maintain, or preferably increase, the quality as well as the quantity. For the average shop, therefore, a satisfactory system should embody the following features: (1) Increased quality; (2) increased quantity; (3) adaptability to a wide range of material and conditions and (4) ease of computation.

With the above requisites in mind, a system, as covered by the following announcement, was put into effect at the plant of the Duff Manufacturing Co., Pittsburgh.

The following bonus regulations will be in force for the men in the heat-treating department.

Heaters: Heats are to be run according to the following regulations:

(1) Temperature. The temperature, after the material is soaked out, must be kept within these limits: Annealing and carbonizing, plus or minus 20 deg. Fahr. Quenching and drawing, plus or minus 10 deg. Fahr.

(2) Time. The times for various heats are as follows: No. 1 and No. 2 furnace—Soak out in 1 hr.; hold ½ hr.; total maximum time not over 2 hr. (And so on for the various types of furnaces and classes of work, carbonizing, annealing, etc.)

The number of heats run by each heater within the above limits will be figured on a percentage basis for a week's time and bonus paid as follows:

Efficiency, Per cent	Bonus per hour	Efficiency, Per cent	Bonus per hour
90	$0.005	96	$0.06
91	0.01	97	0.07
92	0.02	98	0.08
93	0.03	99	0.09
94	0.04	100	0.10
95	0.05		

[1] By A. A. Blue, Duff Manufacturing Co., Pittsburgh. Iron Age. 107 : 687-9. March 17, 1921.

The temperature will be taken from the record on the pyrometer. In case of instrument trouble, the heat will not be considered either way, unless the heat was "off" before the trouble occurred.

The above times are on the basis of the following minimum weights per furnace charge:

No. 1 and No. 2 furnaces, 300 lb.

The time will be counted from the last piece charged in the furnace to the first piece pulled out and shall be so entered by the foreman on the ticket. The foreman shall also inspect all heats when "soaked out" and note the time on the tickets. Each heater will be required to run from 1 to 4 furnaces.

In case of a heat running from one shift to the next, the heater having run it the greater length of time will be responsible.

Exceptions to the above are: (1) die blocks, (2) ball races, and (3) shear blades, where the temperatures only will be considered.

The above times are based on the continuous operation of a hot furnace, and do not apply to the first heat in a cold furnace, when the temperature only will be considered.

Helpers: Helpers will be paid a bonus on the following basis·

Pounds per Furnace-hour	Bonus per hour
170 to 180	$0.01
180 to 190	0.02
190 to 200	0.03
200 to 210	0.04
210 to 220	0.05
220 to 230	0.06
230 to 240	0.07
240 to 250	0.08
250 and over	0.10

These figures are obtained by dividing the total weight of material handled during the week by the number of hours all active furnaces are in operation. When all work for a furnace has been completed this fact will be reported by the foreman and the furnace will not be counted as active again until more work arrives.

The figures are "overall" taking into account all work done, that is, carbonizing, annealing, quenching, etc. Men on both shifts will receive the same bonus.

Work handled twice will be considered as double weight; that is, material quenched and drawn back will be counted twice. Likewise, material double-quenched will be counted twice.

Work which fails to pass test on standard treatments will be retreated to pass without credit being received toward the bonus.

The weight handled will be based on the count made by the inspector and each ticket must bear the inspector's OK for the count.

Foremen: The foremen will each receive 10 per cent of the total bonus in the department.

No man will receive any bonus for any week in which he has been absent, unexcused.

The conditions to which the above outline was applied covered a very wide range of parts and materials used in the manufacture of various types of lifting jacks and commercial drop forgings and forging dies, such as high carbon, high chrome ball races; large pinions, carbonized; small bushings, carbonized; nickel chrome gears; carbon steel gears; die blocks, trimming knives, etc.

Three different types of furnaces are used, making necessary separate figures for each type. The Leeds & Northrup recording potentiometer system is used for controlling the temperature, one couple being in the front and one in the back of each furnace. These couples are lowered in contact with the material in the furnace as soon as the furnace is charged, and instant dismissal is the penalty for tampering with the couple pipes until they are raised to permit the heat to be pulled when finished. The men are divided into heaters and helpers. The heater is required simply to heat the furnaces, while the helpers charge them, do the quenching and pulling of heats. A foreman, of course, is in charge.

Before establishing any such system, a careful study must be made of the following points: (1) A standard weight to be charged in a given type of furnace; (2) a standard time to bring this weight to an average temperature; (3) the length of time necessary to hold at heat to insure every part being fully heated; (4) it is also desirable to minimize the types of treat-

ments as far as possible so as to facilitate making up furnace charges and to familiarize the heaters with how to run their furnaces to the best advantage for each temperature.

Referring back to the features desired to be covered by such a system, the effects are as follows:

(1) *Quality.* The heaters are paid primarily on the excellence of their heats, which, of course, represents quality. Also, the quantity element is brought in, as regards the time allowances made.

(2) *Quantity.* The helpers are paid pre-eminently on quantity, it being to their advantage to clean up the work as soon as possible, whether there be a month's work ahead or only enough for one furnace.

Also, the quality element is applied to them, for, if the material is not quenched properly so as to pass test, they must retreat the material without credit. In the above manner, the heater and helpers act as a sort of "checks and balance" system on each other, it being to the heater's advantage to have a small charge in his furnace, so he can meet the time easily, whereas the helpers want as much in the furnace as possible.

(3) *Application to a Large Range of Material.* (This has been mentioned already.)

(4) *Ease of Computation.* It requires but a short time every day to have the furnace records checked over and credit given to the heaters for their heats in the preceding 24 hours. As for the helpers, all that is necessary at the end of the week is to add up the weight handled, doubling up for material handled twice and divide by the number of active furnace hours. If a furnace runs the entire week, this means the total number of working hours in the week is charged against the furnace. Otherwise, a deduction is made for time when there is no work waiting on the floor, or the furnace is being repaired or idle for other reasons. The figure of "pounds per furnace hour" is not a sensitive

one, when taken in groups of 10 lb. at a time; that is, a few hours or a few pounds will not affect the result to the bonus rate appreciably, which is an aid in its computation.

Just how this system works out in actual practice can be shown by the following figures taken from the company's experience with it:

Heaters: The first week the system was applied, two heaters' "efficiency" averages were as follows: 74.5 per cent and 81.0 per cent. The next week, they were respectively 97 per cent and 96 per cent; the following week, 95 per cent and 96 per cent. Not since the first week have the heaters failed to make a bonus on the records of their heats.

Helpers: Before the system was put into effect, the figures for "pounds per furnace hour" averaged around 150 to 160. It was felt that this was low and the rate was set correspondingly higher. The first week, the figure made was 245; next week, 249; third week, 235; fourth week, 208, etc. As in the case of the heaters, the helpers have always managed to score and the company was successful enough in setting the rate so that it was not a "walk-away," and, so far, the workmen have not yet made the maximum. By clubbing the bonus of all helpers together, a degree of cooperation between shifts and between men working on the same shift has been obtained not previously realized.

Foremen: It is to the advantage of the foreman, of course, to see that all of his men get as high a bonus as possible.

All new systems cause some little difficulty in installing them. However, the company's experience in this case has been very free from such troubles, practically the only friction being due to the feature of receiving no bonus on account of absence. Two men quit the first week on this account, but the rule was enforced, and has given no more trouble.

All such systems, of course, have defects, especially in reducing the flexibility of operation, but, in cases of standard routine material, this is not frequently troublesome. Another defect is found when a man—say a helper—is absent. This throws the burden of more work on his associates, and, although they do more work than they would have to otherwise, they may get less bonus, due to not being able to handle the furnaces so quickly. However, the penalty attached to absence has prevented this feature from appearing sufficiently to cause any difficulty.

The Bonus Is Reported Weekly to the Timekeeping Department, a Copy at the Same Time Being Posted in the Shop for the Inspection of the Men.

HEAT-TREATING DEPARTMENT

9-27-20.

Bonuses Earned in Week Ended Sept. 25, 1920

Heaters

Murphy	219	87 per cent	No bonus
Lewis	225	95 per cent	$0.05 per hour
Jenkins	230	96 per cent	.06 per hour
Ross	283	94 per cent	.04 per hour

Helpers

Total weight handled, lb	162,444
Total furnace hr.	692
Pounds per furnace-hr.	235
Bonus rate per hr.	$0.07

This applies to:

Lutz	218	Salvo	270
Lehman	220	Livitz	250
Kopf	222	Kimick	242
Hindman	231	Marunchek	234

Foremen

Total bonus for week	$45.00
10 per cent of same	4.50

This applies to:

Welty	278	
McGregor	272	Metallurgist

CHAPTER VIII

BONUSES FOR ECONOMY

A GROUP ECONOMY BONUS THAT INCREASED PRODUCTION 26 PER CENT[1]

Theoretically, a worker on piece-rates which are fairly set has every incentive to get maximum output. But every manufacturer knows that it doesn't work out that way.

I don't pretend to have found an unfailing specific for soldiering, but I do know that frequently the group economy bonus will get production when piece-rates won't. A knitting mill I have in mind is a good example of what can be done by this means.

Our first step in this plant was to do everything possible to speed production by planning the work, and by supplying the most modern machines and methods that were available.

It then remained to stimulate the working force to extra effort. That the possibility of increase from that source existed had been determined by time studies, which showed that few of the operators worked at anything near their actual capacity. It was necessary, therefore, to find an incentive to get them to do more.

As all of them were on piece-work, it might seem at first thought that sufficient incentive already existed —that they would at least try to earn the maximum that could be had without undue effort. It is right here that economics fall down when it assumes that all men are acquisitive and thrifty.

[1] By W. R. Basset and W. T. Fitzpatrick of Miller, Franklin, Basset and Company. Factory. 24 : 817-19. March 15, 1920.

Although on the surface men and women appear to be acquisitive, most of them have set a certain weekly earning as their goal and when that sum is reached, they prefer leisure to extra money. There are exceptions, almost as rare as are misers, but I believe this is the experience most employers have had during the past few years of rising wages. In most industries where wages have increased greatly, it is the same—a worker lays off after having earned in four or five days the sum he used to earn in six.

Although this attitude is hard to account for with men workers who more often than not have families to support, it is easier to understand—and harder to combat—with women who as a rule work solely for their own support. And most of the hands in this plant are women. Except for occasional middle-aged women, most female employees look upon factory jobs as fill-ins until some good provider comes along. They seldom want more than enough to cover running expenses. Saving for the future makes no appeal; their future husbands will provide the future funds.

With this condition to face—that added earnings easily attainable were not attractive enough to call forth extra effort—it may seem that no bonus plan would be effective. But a bit of psychology apparently gets in its subtle work here.

The group economy bonus is paid to everyone in a department. Its amount depends on the efficiency of the department as a whole. Therefore, if any one worker is slack, the others in that department suffer. So, though the individual may not care for extra earnings, there are few whose consciences or whose fear of others' tongues will let them deprive their fellows of earnings they may want or need. For instance, in one department employing women, enforced idleness with consequent decreased earnings resulted when the flow of garments from the cutting room, the preceding

department, fell off. When, therefore, a cutter decided to take a day off, he brought upon himself such a tongue-lashing from those in the succeeding department, that he decided thenceforth to stay on the job.

The group economy bonuses were based on savings of three kinds: (1) reduction of unit overhead expense through increased production; (2) savings in expense material such as needles, waste, oil, and so on; and (3) savings in direct material.

In order to set bonuses it was first necessary to install a system of cost accounting which would give accurate departmental costs, not only as to direct material and labor, but as to overhead expense. Then, for three months, normal costs were collected to furnish a basis for figuring future savings. These normal costs were those that obtained after the management had exhausted its ingenuity in attaining efficient operation.

It then remained to determine a basis for sharing the savings made by the workers between them and the company. Although the management was primarily after increased production and would have been willing to give the workers all of the saving in order to get it, it was found that this was not necessary. We obtained not only more output, but in most departments a substantial money saving as well.

At the outset, it was understood that the bonus would be a definite measurable part of the saving and not a sop thrown to the workers at the discretion of the directors. That may work for a while, but being charity, and usually dishonest in intent, cannot continue long.

What was not wanted was an economy bonus like that once observed in a plant where a disastrous strike had occurred a few months after the plan was put on. The bonus had been introduced with much pomp and sanctimonious talk of "the square deal," "the right of the worker to share in the savings" and other pap of a similar, familiar sort.

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Then at the end of the month, whether there had been a saving or not, the directors of the misguided concern said in effect, "Oh, well, they'll be satisfied with so much," and proceeded to pass it out with more platitudes. There was no predetermined basis of division, and it did not take the workmen long to find that out. They discovered, too, that they got a bonus whether they effected economies or not. Before long, the men struck for more wages. Knowing that the bonus payment depended principally upon the unreliable digestions of the directors, they wanted to make sure it would be forthcoming, and they cannily felt that the best way to assure it was to get it added to their wages.

While the group economy bonus is no new thing, it is rare to find it strictly on the square; so square that the management is willing to explain in detail just how it works, so that the men can see for themselves that there is a definite way of dividing the saving.

We started with the idea that no bonus less than 10 per cent of the worker's wage would be an effective spur. The sky was to be the top limit. This was, therefore, the basis on which the work was carried on, and was, incidentally, the only part of the whole proceeding which was not mentioned to the workers. With this as a starting point, the basis of division for every department, productive and contributory, was worked out—and most of them were different.

Ten per cent above the wages was set as the bonus to be paid for savings in overhead expense made by increasing production—any saving of material was to be given as an extra incentive. To show just what was done, it will suffice to describe the method of setting the bonus in two departments, one productive and the other contributory.

In the productive department, the overhead expense, exclusive of supplies, was roughly $10,000 a month and the payroll to productive operators, all of whom were on piece-work, was also on an average of $10,000. We therefore wanted to give a minimum bonus of $1,000 for increased production. Time studies showed that it should be easily possible for the operators to increase their production 25 per cent without increased fatigue. As the $10,000 overhead should not increase materially for a 25 per cent increase in production, this increase would result in a saving overhead of 8 cents a garment.

On a basis of the old production of twenty-five thousand garments a month, this meant a saving of $2,000—twice what was considered necessary to give as a bonus.

Therefore the workers in this department were told that they would get 50 per cent of the savings in overhead, and it was explained to them in detail what overhead expense is and just how increasing production decreases the amount of overhead that each garment they turn out must bear. Two things were noticeable; first, that these mill hands, mostly women, grasped the idea quickly; and second, that they seemed glad to be taken into the confidence of the management.

In some departments where the fixed overhead charges were in a low ratio to the productive payroll, it was necessary to give the entire saving in overhead expense as a bonus, which the management was willing to do to get the increase in production. This was true in the packing and shipping department, for instance.

On top of this bonus was given throughout the mill a flat half of the saving in material, whether it was direct material like cloth, or indirect, like needles, and so on.

When the bonus plan was announced, it was explained to each department the exact basis on which the plan was figured. The workers were told that if they wanted to see the records, any department could elect a committee of two which could examine all of the records for that department.

The workers were also told the whole story back of the bonus; that the management had done all it could to boost production, even to hiring outside engineers to

come in and better the plant and it methods; that further improvements were undoubtedly possible but that they could only come from the increased efforts of the workers themselves.

They were further assured that the present basis of bonus would not affect their piece-rates and that it would remain in force for six months.

It was explained that outside influences, such as the price of material, fluctuated and that a great change in price might work an injustice either upon them or upon the company unless the basis of division was changed from time to time to conform to these outside changes. They accepted this idea as fair. It was guaranteed that the basic operation expense upon which the bonus is figured would not be changed because of economies they might effect. In this respect, incidentally, this plan differs from most others of the sort. It is obviously not fair when a worker improves his methods to make the new standard the normal on which his future bonuses shall be based. The best that the management has been able to attain must remain the normal.

After all, however delectable a method of this kind may sound, the real proof of its value is in the reaction of the workers to it. A few of the results are shown on the preceding pages.

Possibly the most interesting incident following the introduction of the bonus was one in which the general manager, dye boss, millwright and foreman were all involved. It was the general manager's contention that the dye house could be successfully operated on eighty pounds of steam as well as on the customary one hundred and ten pounds. The dye house boss objected, saying that his production would be seriously curtailed by such a step. Deeming it unwise to cross the temperamental dye boss, the idea was dropped.

One day about a week later, however, the foreman and the millwright dropped in on the general manager

with the suggestion that on the next Sunday, unknown to the dye boss, they put a reducing valve on the steam line to the dye house and let it operate on eighty pounds and note the result.

The general manager agreed to their scheme; the reducing valve was installed and the figures show that the dye house production has steadily increased. The foreman and millwright are now sharing $8 a week, as an average of six hundred pounds of coal a day is saved directly as a result of their interest and ingenuity.

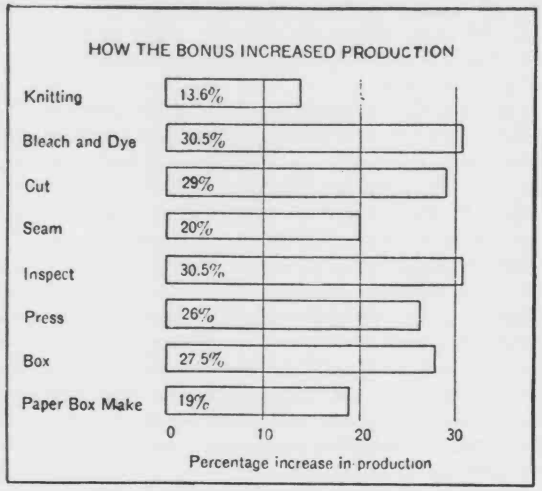
The management does not sit back, however, and trust to the ingenuity of the workers to show the way to savings. It frequently gets out printed slips showing what savings have been made and suggesting possible other savings. While, as a rule, the workers themselves, being closer to the work, see the opportunities first, the management nevertheless knows many places where economies might be practised but has had no way to achieve them heretofore.

But after all, the saving of material in this case was of secondary importance. What we were after most of all was to increase production, and while the management welcomes any saving that reduces costs, it looks upon the saving of material principally as a way to let the workers increase the size of their bonuses.

The first month's operation under the economy bonus showed notable increases in production throughout the plant as the graphic chart shows (on following page).

Today the plant is, as a whole, turning out 26 per cent more garments than before—as a result of the economy bonus.

It was not done by putting in slapdash any kind of "system," nor was it done by any of the speeding processes which so often antagonize workers. Efficient the plant undoubtedly is; but the methods used were based upon common sense and knowledge of workmen and their ways.



Managers of industrial enterprises must recognize the fact that the management of any concern, either by itself or through production engineers, can go only so far in making betterments. Proper machinery in correct balance it can furnish; it can set standard times; it can plan production. But the passive indifference of the workers is a serious barrier. This barrier can only be passed with the help of the workers themselves, and it is here that the principles of industrial democracy are often of value.

From our experience it seems most logical to start at the bottom with things the workmen understand, and give them no more than necessary to get the results. If an economy bonus will get them, well and good—why give more?

But if for some reason peculiar to some particular plant, the bonus does not get results, it may be necessary and desirable to go farther and give the men, through

departmental committees, a say in some of the points of management. And so on to the extent even of putting in a complete form of self-government, but that only if no less will do. To play safe, always start with little and build up, rather than give all at first, or worse yet, pretend to give all while actually giving nothing but the form.

That the maximum results can be gained without giving the men full self-government is amply proved by this experience. All that was given was a share of the savings. But this was given on a straightforward, honest-Injun basis—no philanthropy and no mystery. Unless a plan like this can stand the scrutiny of the workers, it deserves to fail—and it usually does.

100 PER CENT OF SAVINGS GIVEN AS BONUS

Easton Furniture Manufacturing Company
Easton, Maryland

The following is the full statement of the plan of the company, as originally made to its employees.

Beginning March 1, 1920, this company will pay a bonus of 100 per cent of the actual saving in labor costs due to increased production.

For the satisfactory accomplishment of this object a committee of sixteen will be selected as follows:

Eight men will be appointed by the President of the company from the officials and foremen. Eight men will be elected by the employees, taking two from each of the following Departments: Mill, Cabinet Room, Finishing and Rubbing and Packing Departments.

The committeemen from the above departments shall be elected by the men in the several departments casting a secret ballot for two men to represent said department on said committee. Such ballot shall count one vote for each year the man casting said vote has been in the employ of the company.

Qualification

Any employee who has been with the company for a period of ninety days prior to the election is entitled to a vote, excepting foremen, sub-foremen, and other employees having the power of employment or discharge.

Any employee who is twenty-one years of age and who has been in the continuous employ of the company for one year or more is eligible for election on this committee. At least 75 per cent of the eligible voters in any one department must cast ballots at any nomination or election to make it valid.

A representative ceases to hold office when his term of employment with the company ends; if he is transferred from the department from which he was elected to another department; if he is appointed to a position within the company as to make him ineligible to vote or hold office as an employee representative or if he is recalled by those electing him. All representatives hold office for a period of one year, or until their successors have been appointed.

Procedure

The Board of Cooperation shall elect two chairmen, one from the employees' representative; the other shall be the general manager of the company. These chairmen shall preside at alternate meetings, having the right to vote and the privilege to debate from the floor.

The Secretary is appointed outside of the membership and does not have the voting power.

An Executive Committee composed of the general manager, who shall act as chairman, and two men elected from the representatives of the workmen and two men by the foremen. This Executive Committee shall determine labor costs that are to be used as a basis in computing bonus and handle any other matters that the manager may see fit to bring to them for council.

All suggestions and grievances from any department are first to be taken up with a committeeman of that department and this committeeman, when necessary, will take same up with the board of directors, who shall have full power to dispose of same.

The employment of the men for each department rests with the committee of that department. The recommendation for an increase in pay and the dismissal of any employee rests with the committee of that department.

Any employee leaving prior to a settlement period will lose his interest in the bonus for that period.

The following record cards will be provided, namely: Lay-off cards, discharge cards, sick cards, which, when countersigned by the committeemen of the several departments and turned into the office, will serve as records.

Production will be based on stock complete in the finishing room and figured by the fixed standard piece-price, as determined by the Executive Committee.

At the end of each three months the factory output in pieces will be multiplied by the present cost-piece price and the difference between this amount and the wage paid for the same period will be prorated to each workman on the basis of his wages for the period.

The first settlement to be made June 30 for the months of March, April, and May.

As an example, say the present labor cost is ascertained by the Executive Committee to be $10, and the number of pieces produced for the period of three months is three thousand, the present wage would be $30,000. The next period, say the plant produces three thousand and three hundred pieces, for which the factory will pay $10, or $33,000. Then there would be $3,000 to be distributed to the employees in proportion to the wages they have already earned.

Every employee of the company outside of the office will participate in the bonus as defined above.

This plan will give the workmen every cent of gain

made; if the production is doubled the net return of labor is doubled.

The company will receive only the profits accruing from the large volume of sales.

The board of directors shall hold monthly meetings on the second Monday of each month at 8 P.M. o'clock at the factory's office, when all matters pertaining to the successful operation of the plant will be considered. Each director will be paid a per diem of $2 for attendance at these monthly meetings.

EMPLOYEES SHARE IN ADDED NET INCOME

"Cooperative Dividend" Plan of Philadelphia Rapid Transit Company

The plan for a "cooperative dividend," which was inaugurated by President Mitten of the Philadelphia Rapid Transit System is explained below by excerpts from a speech of Mr. Mitten to the employees, explaining the plan.

With employees satisfied and public well served, with P.R.T. property built up, and the equivalent of 6 per cent earned upon P.R.T. $30,000,000 paid in capital, cooperative accomplishment has reached the goal set for it in 1911.

P.R.T. Men and Management can undoubtedly repeat the good work of 1921, and produce net income of $1,800,000 for 1922, which is the amount required to pay a dividend of 6 per cent on P.R.T. capital stock.

Operating costs of 1922 can, I am sure, be reduced at least $1,500,000 by extra effort of men and management and this without any lessening of service.

The Plan which I propose to submit for approval of P.R.T. stockholders provides that cooperating employees receive, in recognition of cooperative accomplishment, cooperative dividend, limited to the added net income produced, but not to exceed in amount 10 per cent of P.R.T. payroll. Payment of 6 per cent P.R.T. dividend is to be first accomplished, followed by cooperative dividend to P.R.T. employees.

This plan will, in effect, make P.R.T. a stock of preference, the 6 per cent dividend on which is underwritten by men and management, who must reduce 1922 operating costs not less than $1,500,000, in order to make possible a cooperative dividend to employees equalling 10 per cent of P.R.T. payroll.

A BONUS FOR REDUCING ACCIDENTS [1]

The Milwaukee Electric Railway & Light Company, Milwaukee, Wis., has in operation a bonus plan whereby employees in the transportation department receive part of the savings secured by more careful attention to the prevention of injuries and accidents. According to Bruce Cameron, superintendent of transportation United Railways, St. Louis, Mo., who made an investigation of the system in Milwaukee and submitted a report to President Richard McCulloch, the employees in Milwaukee are enthusiastic over the success of the plan during its eighteen months of operation.

Mr. Cameron's report, which was abstracted in a recent issue of the United Railways Bulletin, stated that a certain per cent of the gross revenue of the Milwaukee Electric Railway & Light Company is set aside each year to pay injury and damage expenses arising from the operation of the cars. Any saving made from the allowance is partly distributed in the form of a bonus to the employees in the transportation department. If, for example, $500,000 is set aside to meet injury and damage payments and only $400,000 is expended because of increased care and intelligent operation of the cars, 40 per cent of this $100,000 saving (or $40,000) is divided among the employees. A similar percentage goes to the company, and the remaining 20 per cent into a fund for keeping the records. The bonus paid to the men is in addition to the present wage scale and system of compensating the employees according to the length of service.

The motormen and other employees who are entitled to receive a bonus draw 73 per cent of the employees' share, and the conductors entitled to a bonus draw the remaining 27 per cent. The bonuses received by the motormen and conductors climbed steadily during the first year until motormen were earning $7 extra each month and the conductors about $5 each month. The other employees

[1] Electric Railway Journal. Vol. 49. 5 : 209-10. February, 1917.

in the transportation department, such as division superintendents, supervisors, foremen, clerks and miscellaneous car service men, received approximately the same amount of extra money. All employees are figured on the same average of earning capacity, about $1,200 each year, so that the motormen and conductors have an almost equal standing with the superintendents, supervisors and foremen.

In addition to the money allowed to meet injury and damage payments, the report says that another sum is set aside for the maintenance of equipment. If by careful operation there are fewer collisions and less property is destroyed, the difference between the allowance and the cost of repairs and replacements is divided. Moreover, the saving in power through the intelligent operation of the cars figures in the bonus appropriation. A certain sum is also established as the reasonable earnings per car-mile, and if every car hauls its own load, keep on its own space or secures increased fares, the difference earned above the sum designated is divided among the employees.

The right of employees to share in the bonus distribution is determined from their records. The company has a grade book, and all infractions of rules carry with them a certain number of demerit marks. At the first of the month each employee starts out with 1000 merit marks to his credit. If he is demerited in accordance with the grade book and fails to maintain a grade of 750 points, he loses the right to participate in the bonus for that month, while the careful and efficient profit through his carelessness. Any employee demerited 250 points in three consecutive months is liable to dismissal. The demerits for each accident or violation of rules are determined in the first instance by the division superintendent, the right of appeal being reserved in turn to the bonus committee, the superintendent of transportation and the general manager or president.

The bonus committee at each carhouse consists of the division superintendent as chairman, the director of the Employees' Mutual Benefit Association from that carhouse, and another employee of the transportation department. If the director happens to be a motorman, then a conductor is elected to be the other representative, and vice versa. The motorman or conductor chosen must have a service record of at least three years with the company and be in good standing.

There are no lay-offs or suspensions on account of infractions of the rules of the grade book. The division superintendent posts the demerits in the assembly room of the carhouse. The superintendents, supervisors, foremen, clerks, etc., are demerited on account of infractions of the rules the same as motormen and conductors. Their infractions pertain particularly to negligence in not looking after the cars, letting a space go by unattended, not furnishing the proper service or not attending to duty in any other way.

The Milwaukee plan, according to Superintendent Cameron, gives all employees of the transportation department direct responsibility and interest in reducing the cost of operation, increased safety and revenues from car operation, provides a system for enforcing discipline, and recognizes and rewards the services of efficient men whose treatment of the public earns good will for the company.

BONUS SYSTEM FOR FIREMEN [1]

After a boiler plant has been provided with the necessary instruments and the fireman has been instructed how to do the firing, it is almost impossible to maintain a high efficiency without the use of a proper bonus system. The fireman can waste or save a large amount of fuel, and

[1] By C. V. Serbell. Power. 46 : 356-7. September 11, 1917.

he should therefore be entitled to at least a small part of what he is saving for the owners. Every boiler plant needs instruments to show the daily output and input, a CO_2 (carbon dioxide) machine to guide the fireman in the burning of fuel enconomically, supervision as to how to handle the instrument and do the firing accordingly and a fair bonus system. To these might be added a simple boiler-plant accounting system:

The daily output can be measured with one of the several types of recording water meters or with a recording and integrating steam-flow meter. I have found the latter most satisfactory where some of the condensation is returned directly to the boiler at a high temperature and cannot be measured. The steam-flow meter has another advantage in that an instrument for each boiler can easily be installed where it can be readily seen. It does not measure the water blown out from the boiler—only the actual amount evaporated and admitted to the piping system. The input or the coal can be weighed on an ordinary platform scale and the weight of the coal during the month checked against the weight of the coal delivered to the plant at least every month so as to avoid mistakes.

Besides this, the coal ought to be analyzed a few times each month. The information thus gained, together with the average steam pressure, temperature of the feed water and superheat of the steam (if any) or moisture in the steam, will enable one to figure the efficiency of the boiler plant.

As a guide to the fireman to use the proper amount of air for combustion, a draft gage mounted on the boiler front and connected to the furnace will answer the purpose, together with a CO_2 apparatus for analyzing the flue gases. The fireman should receive instruction how to intelligently read the instrument and change the method of firing so as to obtain a CO_2 of about 12 per cent, depending on the fuel. In order to regulate the draft the damper ought to be so connected that the firemen can operate it from the front of the boiler. A pyrometer or thermometer

in the chimney below the damper is also necessary in order to check the losses from the gases escaping through the chimney. A temperature from 150 to 200 deg. F. above the temperature of the saturated steam is proper. The bonus system must be based on the savings obtained above a certain standard or basis; in other words, the firemen must feel that they are getting a part of what they are saving. This is a point usually neglected, but is absolutely necessary in order to secure the full cooperation of the men.

Form S—L

Boiler Department

Statement For MAR 1917

Weight of Coal Burned, Lbs.	1,104,479	
Weight of Ashes, Lbs.	124,494	
Loss in Ashes, %	11.2	
Weight of Water Evaporated, Lbs. to Saturated Steam of 100 Lbs.	10,701,000	
Lbs. Water Per Lbs of Coal Evaporated to Saturated Steam of 100 Lbs.	9.9	
Average Analysis of Coals	14,070	
Average Efficiency of Boiler and Furnaces	72.3	

Bonus Basis=9 lb. of water evaporated per lb. of coal (14,500 b.t.u.) Coal with 14,070 b.t.u. = 8.73 lb.

Coal saved = $\frac{10,701,000}{8.73}$ − 1,104,479 = 121,300 lb.

Bonus = $\frac{121,300 \times 3 \times 15}{2000 \times 100}$ = $27.29

MONTHLY STATEMENT OF FIREMEN'S BONUS

For the last six months the writer has been using a bonus system for the firemen, and with the help of the aforementioned instrument has been able to maintain an efficiency of the boiler and furnaces of above 69 per cent, coal used for banked fire and for firing up boilers included.

The system is as follows: An efficiency of more than 65 per cent or an evaporation of more than 9 lb. of water per pound of coal of 14,500 B.t.u. an average steam pressure of 100 lb. gage and a feed-water temperature of 170 deg. F. form the basis for figuring the bonus. No correction is made for moisture in the steam, but due correction for steam pressure and superheat of the steam and and for the B.t.u. in the coal. More than 65 per cent efficiency is considered as a saving and is figured as follows for coal with a heat value of 14,500 B.t.u. per pound as fired:

$$\frac{\textit{Water evaporated in lb. during month}}{9} - \textit{coal actually burned during the month} = \textit{coal saved}$$

If the price of the coal is $3 per ton (2000 lb.) the saving in dollars will be

$$\frac{\textit{Pounds coal saved} \times 3}{2000}$$

Fifteen per cent of this saving has been divided between the men in the boiler room (see monthly statement). The coal and ashes are weighed every twenty-four hours and noted on the daily coal-consumption sheet, together with the daily evaporation for each boiler from the steam-flow meters, with necessary corrections. A copy of this sheet is sent to the office, and in this way the management each morning can see what was done the previous day in the boiler room. For each month a statement from the boiler department is made up (see

statement), and from this the bonus is figured out as outlined.

The cost of the apparatus used is small. If recording thermometers, pressure gages, draft gages of CO_2 recorders are wanted, the cost increases somewhat, and such recording instruments might or might not be needed, depending on the size and condition of the boiler plant. In any case after the output divided by input is established it is a comparatively easy matter to figure whether it will pay to put in more expensive instruments.

I have been using 65 per cent efficiency, not because this ought to be considered as a standard, but because it was about the best that could be obtained as a monthly average before any instrument was installed to guide the fireman, and therefore the fuel saved above 65 per cent efficiency represents a clear profit less the interest and maintenance of the instrument and the bonus paid to the men. This figure is very conservative, and as far as saying *how* the better results can be accomplished and supervision are operating at an average as high as 65 per cent efficiency, and therefore in many cases the net saving will be considerably higher than here taken.

BONUS SYSTEM FOR THE SAVING OF COAL[1]

Many easygoing owners and managers of plants, realizing that the actual performance is falling short of that possible, often shift the responsibility from their shoulders to those of the employee by offering a premium for performance which is sufficiently better than the present, leaving it to the employee to secure the "better results." In such cases the management side-steps its duty in not saying *how* the better results can be accomplished and *what* they shall be. Such methods are sometimes advocated as giving the employee freedom to develop his

[1] By Walter N. Polakov, Consulting Engineer, New York City. Electrical World. 71 : 36-9. January 5, 1918.

ingenuity. This sophistry is easily exploded when it is considered that the operating man seldom has time for investigation and researches. His hands are full keeping the wheels turning. Furthermore, measuring and indicating instruments and devices are often lacking. The peculiar requirements of a research man—highly developed power of abstraction and observation, ability to concentrate on one problem to the exclusion of all others—are faculties which are seldom, if ever, found in men engaged in routine operating work.

Many Bonus Plans Unsatisfactory

It is generally conceded that higher efficiency warrants higher compensation and that stimulation for efficient work is necessary for its perpetuation. However, the lack of careful study of the subjects is responsible for many misconceptions. Most of the methods of extra compensation are unsuitable, yet no better plan can be adopted unless the principles and operating conditions are properly organized. The faulty methods may be classified as follows: (a) Profit-sharing plan; (b) premium schemes, and (c) rewarding individual efforts.

Profit-sharing.—Profit-sharing is based on the assumption that the employees by their work contribute to the success of the enterprise in securing profits. This would be entirely correct if the employees had the opportunity to control all functions of management, fix the salaries of directors and direct purchases and sales, besides having a veto in financial transactions. As long as they are expected, however, to work under the conditions provided by the management, with equipment and material furnished by the management, which in turn disposes of the product, the profit or loss is only slightly influenced by the excellence of the work done by the men. If dividends are not declared, the workmen lose their share, perhaps through no fault of their own, since even if they have been working as hard as possible, blunders

in policy and mismanagement will offset any good they have done.

Premium Plans.—Premium plans, as worked out in power plants, are very unsatisfactory. The common error of all the attempts in this line is that the final cost of operation is considered as a basis for the award or denial of the premiums. Yet it is perfectly clear that the cost depends not only on the excellence of work but equally, if not in a much larger degree, upon the method and means of upkeep, cost of fuel and supply and its quality, quantity of output, load factor, use factor, etc. None of these factors is under the control of the power-plant employee. Besides, the extent to which different employees contribute to the attainment of economical results is very unequal. While the firemen may effect as much as 50 per cent saving, the switchboard operator cannot influence more than, say, 5 per cent, whereas the floor engineer can save or waste about 1.5 per cent at the most.

The unsuitability of the premium plan was forcefully demonstrated several years ago in a plant where employees who had been accustomed to earning premiums were unable to do so any longer owing to the use of poorer coal and a reduction in load.

Rewarding Individual Effort.— The rewarding of individual effort is perhaps the most unscientific scheme of all. The same objection exists that was cited before —the responsibility for securing better results is shifted onto men who have no authority to alter the conditions under which they are expected to produce results. The common error in applying the reward is to select arbitrarily one or more isolated factors, like CO_2 in flue gas, carbon in ashes, etc., and reward men obtaining the best results. It is generally overlooked that any one or several of these factors do not indicate the true performance of the whole process. It is often wise to lose in one direction in order to gain more in the final result. Moreover, it is absurd to request men to secure better results

without teaching them how to do it and without providing them with instruments showing the progress made.

If one of the advocates of these short cuts would take pains to investigate any of his hobbies—whether high CO_2, or low flue temperature, or good ashes, or anything else that can be produced—he would find that the relation of the factors is complex enough to warrant detailed study. Furthermore, good results cannot be expected unless the equipment used is maintained in first-class operating condition and the supplies furnished are the most suitable and of uniform quality.

A glaring example of inconsistency of the individual-reward plan is offered by the experiences of a Western railroad. Here it was recognized that the actual performance was worse than that possible, and that local conditions of various plants called for different standards.

The work of establishing standards of performance was based not on actual experiments but on average statistical data of the past, reduced by the guessed percentage suspected as waste. Then an allotment was made for each individual plant as to how much fuel should reasonably be consumed there per month. Similarly, payrolls were revised and certain labor costs were assumed as reasonable. These two records multiplied by constants arbitrarily chosen (6 for fuel and 4 for labor) added together and divided by 10 gave the figure of merit used as a basis for the payment of bonus, the bonus itself being adjusted on a sliding scale.

The shortcomings of this crude method are apparent:

1. Men are left to discover for themselves how to secure the results desired by the management.

2. The management, shifting the responsibility to the men, was uncertain as to the exact amount of saving accomplished due to individual efforts, and therefore could not fix a definite bonus.

Task-Setting Plan That Brings Results

As opposed to all these methods, the writer advocates the assignment of a well-defined task to each member of an organization. The setting of a task presupposes the complete and detailed knowledge of each and every process performed in the plant and includes reliable information as to what each unit of equipment can do and what are the conditions producing the desired results. This knowledge, once gained through test and research work, is made available by instructions and training. Results necessarily follow conditions; therefore the task really consists in maintaining conditions as prescribed, not in attaining results, inasmuch as they are assured if all requirements are complied with.

To determine whether the men live up to their instructions, and consequently whether they earn their bonus, it is often convenient to judge by final results. However, these are not necessarily definite indications, since results may fall short of predetermination because of conditions beyond the control of the employee. To illustrate: Boiler efficiency may materially drop through no fault of the fireman if baffles and arches in the boilers are not maintained, owing to poor planning, lack of material, etc. Steam consumption may increase above what it should be if cool condensing water is not available. The man may fail to remove the ashes in the prescribed time if the locomotive batteries are not properly charged, the cleaning schedule disorganized, etc. It would be obviously wrong to deny the bonus to the employee who did all that was expected of him but who was unable to produce results through the fault of somebody else or something that could not be prevented by him.

Under such conditions an investigation should be made, not to verify the results, but to find out whether the conditions prescribed by the instruction card were lived up to. If they were, that is all that was expected from

the employee and his bonus should be allowed him. This basic principle should apply in all cases. Favorable conditions may produce results slightly better than specified, yet they do not call for any additional reward since they evidently are not due to any extra work on the part of the employee. In other words, the bonus remains constant as long as the terms of the instruction card are compiled with, irrespective of whether the results are equal to, above or below a certain predetermined value. In case results are below a specified mark the bonus should be paid in full or not paid at all, depending on the investigation previously mentioned, but never should the bonus be reduced.

The knowledge of how to do things properly and the strongest desire to work according to the best methods are of no avail unless the conditions are such that it is possible to apply these qualifications. It is a well-known fact that the daily performance in a plant operating under old-fashioned management falls short of the results obtained during a specially arranged test. This is due chiefly to the failure to plan the work ahead and permanently maintain the conditions prevailing during the test.

In considering conditions which should be maintained to secure the best economy the elimination of causes producing fatigue should be given first rank, as in power-plant work neither the best of machinery nor excellent supplies can produce satisfactory results unless they are handled by men who are not tired, mentally or physically. From experiments conducted with firemen the writer has found that, other conditions being equal, a fireman on a twelve-hour watch is about 4.5 per cent less efficient than the same man on an eight-hour shift.

No one familiar with the common layout of a power plant can over-emphasize the importance of hygienic conditions to enable men to live up to their task day in and day out. While engine rooms not infrequently offer very pleasant and sanitary surroundings, boiler-houses, the most important part of any plant, are often so built

as to make them unbearably cold in winter and uncomfortably hot during the summer. Good lighting is so unusual that after looking into the furnace a fireman can seldom read the gages or examine anything around the boiler. Good drinking water is rarely provided, and restful seats with backs (seats without backs are as bad as no seat at all) have never been found by the writer in any boiler house. If provided with seats having backs the firemen can clean the fires twice as rapidly as without them.

The absence of elementary conditions of comfort in a working place where the men spend the greater part of their lives is more harmful to the employers than to the employees. Petty annoyances and feelings of discomfort divert the attention of the men from the performance of their duties to means of avoiding the annoyance. Steady attention on the part of the firemen is much more important than is generally realized.

Of no less importance is the hygienic surrounding on the switchboard gallery. Flickering light from lamps on a low-frequency circuit, glare on the glass fronts of instruments, cement floors to walk on, inconveniently located telephones or telautographs, too low log desks, etc., are all excellent means to increase steam consumption per kilowatt-hour and reduce the safety to men, property and service.

BONUSES IN A SHOE FACTORY

The F. Mayer Boot & Shoe Co. Milwaukee, Wis. has a bonus plan for economy that has been in operation since 1914. The plan applies to outside cutters, trimming cutters, and sole leather cutters. Under the plan, three cents is paid for every foot of leather saved by the cutters under their allowance. A charge of the same amount per foot is made for losses. The cutters are paid when their savings amount to $10.

CHAPTER IX

BONUS FOR STEADY ATTENDANCE

THE PROBLEM OF LATENESS AND ABSENTEES[1]

Review of Methods Used in Various Firms

The Cost

The cost to business firms, occasioned by absences and tardinesses is much greater than generally realized. One department store reports that it is required to keep 5 per cent more employees than would otherwise be necessary, because of absences and tardinesses of employees. Perhaps the three most important costs are:

1. Maintenance of larger payroll.
2. Idleness of machines and equipment when not in use.
3. Impairment of discipline and control.

Increase Since 1916

These twin evils have greatly increased since 1916, due to the abnormal conditions of employment which prevailed during the war. The fact that the "fear of discharge" practically disappeared from the minds of many employees greatly weakened discipline in many plants. Hence there was a "letting down of the bars," a tolerance and indifference toward undesirable traits in employees, and a general laxity in control which greatly increased absences and tardinesses, as well as minor infractions of rules and regulations (which also lessened production).

[1] Special Supplement to Industrial Relations. January 15, 1921. Vol. V. No. 13. Copyright 1921. Meyer Bloomfield and Daniel Bloomfield—All rights strictly reserved.

The Present Problem

In the present period of readjustment, it is important to ask, "What measures can be taken by the management to lessen the waste occasioned by unduly frequent absences and tardinesses?" Certain methods which have been successfully used, by various firms, will be considered in this report.

Pay Days

Many firms report that absences have proven to be greatest on Mondays. The term "Blue Monday" has frequently been used to indicate the unsatisfactory character of this day in may plants. To lessen causes, which produce such results, many firms have done away with the Saturday pay day—and now use Tuesday, Wednesday or Thursday for paying wages.

Transportation Difficulties

In many cases, transportation difficulties prove to be a most important cause, particularly for tardinesses. Traffic tie-ups, delayed cars, and similar factors entirely beyond the employees' control frequently result in tardiness, despite his best efforts. To meet this situation, certain establishments have adopted the policy of employing *only* those employees who reside in certain stipulated geographical areas, which offer reasonably reliable transportation facilities, to and from the place of employment. Thus an effort is made to give preference to those applicants who do not come from an unduly long distance, and who are not required to make a number of transfers or charges while en route, etc. One of the department stores of Chicago has tried this plan with success.

"Docking"

The practice of docking the employees' wage for absences and tardinesses is not a new one. Ordinarily, employees who are working on hourly- or daily-wages are automatically docked for their *absences,* although in

many cases, not for their tardiness. Likewise piece-rate workers are automatically docked for time lost. However, in many cases, there is an attitude of indifference among piece-rate workers on this subject, because they feel that "their time is their own." For them, therefore, the docking system is of little value. Hence, when used, it is ordinarily applied to salaried or time-rate workers, *especially* in connection with tardinesses.

Variations of the Docking System

There are many variations of the fining or docking system.

The Cleveland Metal Products Company provides that if an employee is late any fraction of fifteen minutes, he is docked a *full* quarter of an hour wage. This applies to both day- and piece-workers. The piece-workers are "docked" on the basis of their day work-rate and not their piece-work earnings. Many other firms follow a similar practice.

Disadvantages of Docking

The "docking system," however, has certain disadvantages. At best, it is a negative method, not a positive one. It frequently arouses the employees' resentment, particularly if he is docked, say, a quater or a half hour's pay, because he is late a fractional part of such period.

Overcoming Such Objections

Some firms endeavor to overcome these objections to the "docking system by providing that the money so saved shall not go to the employer, but that it shall all accrue to a *special fund*, to be used exclusively for certain employees' educational, club, or recreational activities." The Art in Buttons Company has such an arrangement. When thus modified, the docking system loses much of its sting to the employee, although it remains just as effective in the accomplishment of its main purpose, i.e., the reduction of tardiness.

Bonus and Premium Plans

As contrasted with the method of levying fines, other firms use special bonus plans offering special rewards for punctuality and regularity of attendance. Such plans are *positive* rather than *negative*. They offer the employees a special *inducement* and *incentive*, over and above the regular pay.

Cash Bonus Plans

For example:

The O. W. Richardson & Co. (furniture, rugs, etc.), of Chicago, pays a 2 per cent bonus on every semi-monthly pay day to all employees who have had a perfect attendance and punctuality record, during the semi-monthly period.

The A. J. Nystrom & Company, of Chicago, provide a theater ticket on each monthly pay day for those employees who have been neither tardy nor absent more than five times during the month. The winners all attend the same theater in a group. This monthly "theater party" is one of the important events in the social life of the employees. (At first, the selection of the theater was left to the vote of employees. But such marked differences of opinions developed that the management now selects the play.)

The company also has a profit-sharing system, but that is not affected by the tardiness of employees, although payments are reduced by paid absences.

The International Silver Company of Bridgeport paid a 5 per cent weekly bonus on wages, for a perfect time record during the war.

The Procter & Gamble Co., Ivorydale, O. pays a bonus of $2 per week to its female employees for perfect attendance.

To encourage punctuality and good attendance, the

Metropolitan Life Insurance Co. pays a bonus of 10 per cent of the weekly salary to any Home Office employee who completes thirty consecutive business days of perfect attendance. The maximum payment is $6. Vacations and absence due to a process of a court or to military duty do not forfeit the bonus, but do not count for it.

Attendance Bonus for Elevator Men

A. I. Namm & Son, Brooklyn (department store) offers to elevator operators as an incentive to regular attendance one-half day's pay or the equivalent time for perfect attendance for one month. Operators are given their choice of time or pay whenever possible, although occasionally the store is unable to allow time. The employees generally choose pay. This bonus has had excellent results.

Special Rewards Other Than Cash Payments

The special rewards offered are not *always* in the form of a cash bonus. For example:

The S. W. Collins Manufacturing Company provides that every woman employee who loses not more than ten days' time during the year may have one week's full vacation, *with pay*. Thus, the employees get an opportunity to take a vacation, which, the management holds, greatly increases their efficiency, and at the same time the inducement for *regularity* throughout the year is provided.

Special Plan of United Chemical and Organic Products

Perhaps one of the most interesting and novel bonus plans is that introduced by the United Chemical and Organic Products Company of Hammond, Ind. This concern uses a bonus based upon two combined factors, (a) length of service; (b) hourly-rate.

In this way the employee drawing the higher pay will receive a greater bonus. This has the effect of encouraging the men to reach the point where they can command

a higher rate of pay. The causes for penalty through which the employee loses his bonus during the current pay period are tardiness and absence from duty without valid excuse.

The bonus consists of a graduated percentage, to be paid upon the employees' earnings, for each semi-monthly period. This percentage is in an *increasing* ratio, increasing as the period of service increases.

However, the *only* periods of service included in the computation of the employees' period of employment (to be used as a basis for their bonus) are those periods during which he has had a *perfect full time record*. Thus, if an employee has been on the payroll seven months, but if during that period he had an *imperfect* or *part time* record for two semi-monthly periods—his bonus would be computed on *six months only*. In other words, each time a worker turns in a perfect record for the semi-monthly period, one-half month is added to his period of service, upon which his *length-of-service* bonus is computed. But, if he has had an imperfect record during any semi-monthly period, that period will not be added to his record.

If a worker does not have a perfect full time record, for any semi-monthly period, he sacrifices his bonus for that period, but he does not lose the credit of his previous service, as the basis for *future* length-of-service bonus payments. That is, all perfect full time periods previously served will stand to his credit, in computing future bonuses. The above plan is well designed to promote both *regularity* and permanency among employees.

Making Tardiness Conspicuous

Entirely aside from levying penalties, or offering special bonus rewards and similar plans appealing to the employees' desire for personal gain, other methods have also been found effective. Some managers hold that the most effective method of reducing tardiness is to make lateness

difficult, conspicuous and embarrassing to the tardy employee.

For example:

The J. B. Stetson Company requires that if an employee is late he must get a specially signed pass to be admitted to the plant.

Strawbridge & Clothier Company of Philadelphia provides that if an employee is late he must first go to a central desk, sign up, and indicate the number of minutes he is late.

These plans have the advantage that the employee realizes he must call attention to himself, and to his tardiness. He knows full well that it will not be possible for him to enter late and yet have his tardiness pass unnoticed and unobserved.

One of the above firms reports that tardinesses were reduced about 25 per cent by the use of such a plan which made every tardiness conspicuous and embarrassing by calling the specific attention of the employee's superior to it.

Making Employees Realize That Their Attendance Record Is Important

There can be little doubt that one of the most effective means of overcoming these twin evils is to let the employee know and understand that such delinquencies do not pass unnoticed, and to make him feel that *real importance* is actually attached to his attendance record. This can be done in various ways.

The S. M. Collins Manufacturing Company accomplishes this result by keeping a card record showing the total number of hours the employee could work, per week, if he is actually on the job throughout the entire week, and also showing the *actual* amount of time worked. The difference, expressed in terms of hours and minutes, represents the time lost due either to the employee's absences or lateness. Every employee is instructed

that his attendance chart will be given careful study in considering every advancement and promotion, either in responsibility or in salary. Hence, this method has proven a very effective one, particularly among the more ambitious employees, who look forward to securing advancement.

The Emergency Fleet Corporation tried to promote the same end among office, clerical and salaried employees, by keeping a careful record of the employees' attendance (both absences and tardinesses.) Every two weeks each employee's record was placed on his desk by the department head.

Such methods go far to make the employee feel that his attendance record is important, that his superiors *know* what his record is, and that they *care* what it is. In other words, he feels the pressure and influence from those further up in the organization. With many employees this is likely to be the most powerful consideration.

Rivalry and Publicity

A certain amount of educational work may be accomplished by developing the spirit of inter-departmental competition and rivalry, and by publicity. For example:

The Curtis Publishing Company of Philadelphia follows the practice of posting bulletins, showing the number and percentage of absences and latenesses, by departments, and the relative standing in this respect of each department.

The company goes further by reporting to the Personnel Committee the total list of workers who have been tardy over three times during the month, and then this list is sent back to the Division Head with instructions to follow up personally and exert pressure to better the record the next month. If the record is not bettered, then the Personnel Manager and the Division Head are made jointly responsible for whether the employee is to be maintained or not.

Strawbridge & Clothier of Philadelphia go even further. Each Department Manager is advised weekly of the relative standing of his department in punctuality with the names of those responsible for imperfect records. Persons frequently tardy are summoned for interview in the Department of Personnel. Attendance and tardiness are entered on the employee's record and become factors in the employee's progress.

Employees' Service Work

Certain forms of employee's service work have been found helpful. Among these many be mentioned home visiting and nursing. Certain firms employ a visiting nurse, who looks up every absentee, on the second day of absence. In many cases, the absence is found to be due to sickness of the workman, or perhaps due to sickness of his wife or child. By securing or providing the proper care, the nurse is frequently able to get the employee back to work shortly, or at once,—thus materially reducing the period of his absence.

The Cleveland Metal Products Company, Hart Schaffner and Marx, The Merchant Shipbuilding Corporation, and other firms have tried this plan with substantial success.

Other firms maintain a staff of doctors and dentists, *in the plant,* and provide that employees consult them *freely,* on the company's time.

Montgomery Ward & Company of Chicago had such an arrangement. The management reports that in this way many minor complaints, sicknesses, colds, etc., are *"nipped in the bud"* by early and preventive treatment,—which, if permitted to go unattended, would result in prolonged illness, and therefore, in prolonged absences from work.

Vigorous "safety first" campaigns also result in a substantial reduction in absence. For, by such means, employees are educated and enabled to avoid, or at least to reduce the number of industrial accidents, which necessarily cause men to absent themselves from their work.

100 Per Cent Attendance Record

Most of the bonus plans above described insist upon 100 per cent attendance record, with regard to absences —or tardiness—or both. However, some companies allow a certain margin. For example, one Chicago plant bases its bonus payment upon a 95 per cent attendance record. Some establishments (e.g., A. M. Collins Manufacturing Company) do not count absences against the employee's record, *provided* he brings a physician's statement showing illness as the cause. But in most bonus plants there is no such special provision.

Bullard Machine Tool Company Plan

The Bullard Machine Tool Co., Bridgeport, Conn., has a plan for giving a premium or bonus to employees for prompt, regular and continued service. This premium amounts to 10 per cent of the employee's weekly wages, earned during the regular hours of operation, provided the employee has worked a full week, but this 10 per cent premium will not be paid on overtime.

Premium vouchers are enclosed in the pay envelope on each pay day. Each premium voucher becomes payable four weeks after issue, provided the person receiving the voucher is still in the service of the company.

These premium vouchers are not negotiable, cannot be transferred, and become void if the person named thereon leaves the employ of the company for any reason.

The company reserves the right to change or discontinue this plan at their option. But should the company discontinue the system, it will honor all valid outstanding vouchers and cash them at maturity.

ABSENCES—HOW TO REDUCE THEM[1]

Those who have accomplished the best results in reducing absenteeism put the most faith in prompt

[1] From Factory. 21 : 231-2. August, 1918.

investigation of all cases of absence. Just how this is to be done economically and with due regard to the psychological aspects of an interview with absent employees is something of a question.

One New England company sends out a rough and ready factory man to do the investigation work—not a polished office clerk. The management here believes that this man is better received in the homes of workmen than would be an office investigator.

To expedite the work this man has an automobile at his service. He looks up those cases to which he is directed by the attendance clerk of the employment department.

Another New England company—a Massachusetts concern—has its absentee investigation work carried on by its hospital nurses. They go to the homes of absent employees to offer assistance to any who are ill. Incidentally they bring back full records of the case.

It is thought that the psychological effect of having a nurse attend to such cases is good, for obviously no well person who stays out for trivial reasons other than those of health cares to have a nurse appear to inquire for him.

A report of absentees is furnished the labor and service department at 8:15 every morning.

At 8:30 the service auto leaves the plant with a service worker who checks up each individual, noting on a special report, which is used for that purpose, the record of the absentee.

The service auto returns to the plant at 12 o'clock and the reports of the morning's visit are handed to the superintendents of the divisions for their information. As the majority of the workers are girls, the service worker endeavors to reach the parents of the operator and, when possible, to learn of any complaint or dissatisfaction.

Other Ways of Checking up Absentees

Some companies rely on the telephone where possible and still others on the mail to check up absentees. In

other cases, absentees are required upon their return to state to the foremen the reasons for their absence, but this to many may seem like locking the barn after the horse is stolen.

There is an interesting variation of this practiced at the plant of the Avery Company. When an absentee gets back on the job at this plant he must report to the company doctor before he can go to work. This has had a good effect in bettering the attendance records and has been particularly beneficial in reducing after-pay-day absenteeism. Men know better than to face the experienced doctor with an excuse about too much pie and an upset stomach when indications are otherwise.

Some concerns pay attendance bonuses and in these cases a smaller amount of investigation of individual cases is attempted as it is assumed that under these conditions all will come who are able. But more about the attendance bonus later.

A too early investigation of absence cases will call for an unnecessary amount of labor, so that most companies, particularly the larger ones, who do work of this sort begin investigation only after an interval of two or three days.

The investigation of absences does far more than merely strengthen lax habits on the part of employees. It often enables the management to keep in better touch with its working force and thus learn from them more of the workmen's viewpoint upon their organization, for many stay away on account of dissatisfaction rather than illness.

Concerning this the employment manager of the Columbia Rope Company says: "Naturally we find cases for which they have a perfectly reasonable excuse, and there are those who are dissatisfied. With those who are dissatisfied we make an effort to have them come back to the office to talk matters over and see if we can make arrangements that are satisfactory to them. We are able to do this in a great many cases."

Tardiness, while it does not slow up production to the same extent that a whole day's absence does, is detrimental to the morale of the working force and of course represents idle machine time in the case of machine operators. And so absence and tardiness are often considered together, although their treatment in general may not be the same.

But the bonus method seems to be admirably suited to the reduction of both absenteeism and tardiness. So great is the importance today of keeping everyone at work all the time that rather large attendance bonuses are offered by some companies.

Such bonuses range all the way from small rewards up to 15 per cent of the salary. But of the ten or eleven attendance bonus plans, the complete details of which were at hand when this article was written, the average bonus is more than 8 per cent of the wages. How large the bonuses given are in a number of companies the table on following page shows.

It may be interesting to go into the details of some of these plans. At the Yawman and Erbe Manufacturing Company, employees receive a war bonus as follows: All employees earning $15 or less per week, 15 per cent; over $15 but not over $20, 12½ per cent; over $20 but not over $30, 10 per cent; over $30 but not over $50, 5 per cent.

These bonuses are paid each employee working the full number of regular hours. For a less number of hours, or not reporting on time for work, deductions from the bonuses are made as follow: For either once late or once absent during any one week the bonus percentage is reduced by 2 per cent.

This Is an Exceptionally Liberal Bonus

For late once and absent once during any one week the bonus percentage is reduced by 5 per cent.

For either twice late or twice absent during any one week, the bonus percentage is reduced by 5 per cent.

SAME BONUSES PAID FOR GOOD ATTENDANCE RECORDS

Name of Company	Attendance Bonus	Attendance Bonus Period	Service Bonus	Remarks
The Robbins and Meyers Company	5%	2 weeks	1½% at 6 months up to 10%	
The Goodyear Tire and Rubber Company	10%	——	After 5 years, one week vacation with pay After 10 years, two weeks vacation with pay	
Westinghouse Lamp Company	10%	1 week		
Columbian Rope Company	7%	1 week	1% per year of service up to 5 years	
Steel Equipment Corporation	5% 10% additional	4 weeks 6 months		
Findeisen and Kropf Manufacturing Company				
Office employees	$1.	2 weeks	After one year, two weeks vacation with pay and 5% of earnings	
Brass shop men	5%	6 months	After six months continuous service 7½% of earnings	
Brass shop women	$1.	2 weeks	After six months continuous service 7½% of earnings	
Yawman and Erbe Manufacturing Company	5% to 15%	1 week		Note: Sliding bonus percentage depending on earnings and deductions for minor irregularities in attendance. See text.
Queen City Machine Tool Company	$0.50 to $1.25	1 month		Note: Paid in Thrift stamps

For either three times late or three times absent during any one week, the bonus percentage will be reduced by 10 per cent.

For more than either three times late or three times absent during any one week, the employee is disqualified for bonus during that week.

Each day or part of a day absent figures the same as each occasion late.

Employees who are absent, due to injury received in the performance of their regular duties, do not forfeit any portion of their bonus due to such absence.

Any employee leaving the service of the company, between the dates when bonuses are payable, forfeits any bonus that may have accumulated during that period, with the exception that employees who may have enlisted in the army or have been called to the colors, will receive their bonus on leaving the employ of the company.

A Cleveland concern is about to institute a plan which contemplates the division of its organization into its departmental units. It proposes to offer a day's wages per month to the employees of the department obtaining the best percentage record for attendance.

Using Team Work as a Basis for Bonuses

By putting the competition on a percentage basis, opportunity between the large and small departments is equalized. This concern under this plan it not to accept any excuses, but simply allows the time cards to determine the standing. It is the belief of this organization that the element of team play will bring satisfactory results.

With a plant having many departments, it may be said by some that the chances of winning are so reduced for the individual that the plan may not offer sufficient incentive to get good results.

Perhaps the plan having the maximum incentive for

workmen is that in force at the plant of Steel Equipment Corporation.

There are two plans. Plan No. 1 provides a bonus of 5 per cent to be paid every fourth week. The amount of extra pay is figured as follows: If the employee is present every day and on time during the four weeks he receives an extra amount equal to 5 per cent of the wages he has earned during that period. If he is late or absent only one time during the four weeks he receives extra pay of 4 per cent. If late or absent twice during the four weeks he receives extra pay of 3 per cent. But he receives no extra pay if he is absent or late three or more times. New employees participate in the plan commencing with the first new four weekly period after their employment.

Plan No. 2 is an entirely extra reward and has nothing to do with the reward paid under the above plan. The bonus covers a period of twenty-six weeks. No lateness or absence during this period entitles the employee to a bonus of 10 per cent of his entire earnings for the entire period. For example: If an employee's earnings for the twenty-six weeks were $520 his extra pay or bonus would amount to $52.

If the employee has not been late or absent more than five times during twenty-six weeks he receives extra 8 per cent (41.60). If not late or absent more than ten times he receives 5 per cent extra ($26). If not late or absent more than fifteen times he receives 3 per cent extra ($15). The bonus is paid thirty days after the twenty-six weeks have expired. An employee discharged for any cause does not receive Bonus No. 2. This also applies to employees who leave of their own accord. In cases of death, all accumulated bonuses are paid to the family or heirs of the deceased.

The maximum bonus in this particular case is large but it does not seem so big if it is looked at as a raise in wages, which might come anyhow; but it is more than a simple wage increase as it is conditional upon good

attendance. And all attendance bonuses that do not immediately follow wage increases may be looked at in this same light.

The bonus for perfect time records is 5 per cent on each pay period of two weeks at the Robbins and Myers Company. Hence two weeks' perfect attendance, including promptness, is required in order to bring the bonus with the pay check. In addition a graduated bonus for long service, beginning with 1½ per cent at six months and going up to 10 per cent operates toward keeping men regular enough in attendance to hold their jobs, even though they may not be able to get the 5 per cent attendance bonus regularly.

Another combined service and attendance bonus with interesting features is that in the brass shop of Findeisen and Kropf Manufacturing Company. Both men and women (except department heads) are paid a service bonus of approximately 7½ per cent of their earnings at the end of each six months' period of continuous employment.

The attendance bonus is different for men and women in this company's employ. Every man employee who has lost not more than thirty hours of the working time of his department during his six months' service bonus period also receives an attendance bonus of 5 per cent of his earnings during the six months.

For women an attendance bonus of $1 is given for each perfect two weeks' attendance. The loss of one hour of working time during the two-week period will forfeit the bonus.

At this plant in case it should be necessary to lay off any employee permanently he is paid full bonus up to the time of lay-off. In case of temporary lay-off the department head fills out a pass in duplicate specifying the date and length of time the employee is to be laid off. One copy of this pass is retained by the department head and one by the employee which serves as a proof that this lost time is not to be considered an absence.

New Way of Getting Perfect Attendance

The employee's first attendance bonus period is for three months only. Subsequent periods are of six months' duration.

A novel form of attendance bonus is that in force at the Clothcraft Shops of the Joseph and Feiss Company. It is the custom at this plant to close down for one week each year. This vacation for the employees is without pay, but after working for the concern for a year employees get a bonus equivalent to forty-eight hours of work. Each absence of one day when not covered by a sufficient excuse takes off eight hours from the forty-eight-hour bonus.

At the Westinghouse Lamp Company, where an attendance bonus is in effect, the bonus is paid on a weekly basis. For the salaried employees who are paid twice a month, one late in the fifteenth-day period disqualifies them for 50 per cent of the bonus and if the late is over fifteen minutes they are disqualified for the whole bonus.

One variant of attendance bonuses is to pay them in thrift and war savings stamps, as is done at the Queen City Machine Tool Company. This plan, besides assisting the government, has the advantage of stimulating the habit of saving.

The trouble with the individual bonus for attendance as one executive sees it is that in individual cases there are a great many legitimate excuses and the just settlement of excuses alone is apt to be burdensome. Furthermore, it brings one more point of fiction between management and employee, as this executive puts it.

Perhaps it is for this reason that in many plants hard and fast rules govern excuses so that a man two seconds late is late. In most cases there are certain standardized excuses or exceptions allowed. For instance, most companies having attendance bonus plans make due allowance for late trains or a general tie-up in the street car service.

Record keeping of attendance probably pays even though no attendance bonus is in force. In fact, its value in assisting in the just handling of wage increases may alone warrant the keeping of these records. In the questionnarie which formed the basis of this article, with one exception every executive said that the absentee record was a prominent factor in determining upon individual wage increases. And, in fact, in this exception mentioned, the writer said that to a limited extent he took the absence record into account. He added, "The nature of work performed, and ability of the worker, are naturally paramount in considerations of this kind."

But even if the records are not taken into account in granting raises, the moral effect is good. If a workman knows that every absence is a matter of record he is less likely to be thoughtless about taking days off. The record has value if it is incorporated in letters of recommendation when workmen leave a company's employ, particularly if the whole working force appreciates that this custom is being followed. One executive believes that this alone is a powerful incentive to have a clean record.

Why One Manager Doesn't Believe in the Attendance Bonus

As has been pointed out, the keeping of attendance records does not imply the necessity for an attendance bonus. In fact, one employment manager who has an exceptionally complete attendance record feels that a bonus is equivalent to bribing children to be good by giving them candy. He asks, "Why pay extra for what is understood to be in the contract in the first place?"

Perhaps the whole situation is summed up by A. W. Ross of the labor and service department of the Westinghouse Lamp Company who writes, "The bonus scheme should only be used in plants where tardiness is a factor. To institute a bonus scheme based on punctuality and attendance, in a plant where there is very little of this

trouble, would very soon disorganize a well-regulated plant. This is based on figures which we have obtained from one of our other plants, and it can be said that an employee losing the bonus on Monday morning will invariably be late again during the week, knowing as he does that he has lost the bonus and does not care about punctuality thereafter."

CHAPTER X

BONUSES FOR LENGTH OF SERVICE

COST OF A SERVICE BONUS PLAN

General Motors Corporation

The General Motors Corporation awarded in July, 1921, to 6,577 of its employees 6,332 shares of the 7 per cent debenture stock and 117,552 shares of the common stock of the corporation as bonus for the calendar year ending December 31, 1920.

The bonus plan was adopted in 1918 as a solution of the problem of how employees of exceptional merit might be induced to remain with the coporation for a period of at least five years. This profit-sharing plan is also substantial recognition of the fact that in a marked degree the success of the corporation may be attributed to the inventions, ability, industry, service and loyalty of its employees.

Years ended Dec. 31	No. shares common awarded	No. employees receiving common	No. shares 7% deb. awarded	No. employees receiving 7% deb.
1920	117,552	3,210	6,332	3,367
1919	214,659	1,721	14,088	4,709
1918	261,460	2,277	.....	.....
Grand Total.	593,671	7,208	20,420	8,076

A Profit-Sharing Plan

Employees, by the operation of the plan, are made partners and part owners in the business and thereby encouraged to further effort and initiative. It is the intention to continue the plan year after year, the right

being reserved, of course, to modify or repeal the plan at any time; however, a bonus once granted an employee cannot be recalled or modified.

The annual awards under the bonus plan are held in trust for the employee for a period of five years, but during that time dividends are paid direct to the employee. The awards for the three years during which the plan has been in operation is shown below.

10 Per Cent of Earnings Used as Fund

The corporation each year, after deducting from net earnings 6 per cent on the capital employed in the business, sets aside 10 per cent of the remaining net earnings and this amount of money is placed in the bonus fund, which is invested in the common and 7 per cent debenture stock of the General Motors Corporation. The total amount of money set aside out of earnings in the three years, 1918, 1919 and 1920, with which to carry out the bonus plan work is in excess of $13,000,000, and this does not include the expenditures of administration.

Administration of Bonus Plan

Bonuses will be awarded in either one or more of the following classes:

1. "Senior" bonuses may be granted in the following manner:

The senior bonus list will be selected from those salaried employees receiving $2,400 per year and upward; provided, however, that to receive or retain a senior bonus rating the head of division or other superior officer must certify each year that the individual is one who is a

> high class man, showing, (or showing promise of) more than ordinary ability in an individual or supervisory way, capable in his position and not easily replaceable should he leave the corporation's employ.

A senior bonus list will be made up of the more important salaried employees, to whom may be distributed in accordance with provisions herein contained of not

more than from 8 per cent to 8½ per cent of the surplus left from earnings after deducting 6 per cent on the capital invested.

Recognizing that extra compensation should vary as between individuals, the president and each head of a division will at the end of each calendar year furnish a list of his salaried employees coming within the terms of this section, classifying them into the following groups:

AA—President's list,—including the heads of divisions and all salaried employees not under the direction of a head of a division; also in extraordinary cases other employees, upon the recommendation of the heads of divisions and with the approval of the president, may be transferred to this class;

A—Division employees of the highest type, but not necessarily of the highest salaries, and containing names approximately aggregating 10 per cent of the total salaries remaining on the division bonus list after the elimination of those individuals who do not come within the qualifications necessary for bonus distribution.

B—Division employees of the next highest type to the extent of approximately 15 per cent of the aggregate amount of salaries on division bonus list;

C—Division employees of the next highest type to the extent of approximately 15 per cent of the aggregate amount of salaries on division bonus list;

D—Division employees of the next highest type to the extent of approximately 15 per cent of the aggregate amount of salaries on division bonus list;

E—Division employees of the next highest type to the extent of approximately 20 per cent of the aggregate amount of salaries on division bonus list.

F—Division employees of the next highest type to the extent of approximately 25 per cent of the aggregate amount of salaries on division bonus list.

When all of the names on classes, A, B, C, D, E, and F are in hand and approved by the Bonus Committee with such modifications as it may determine, the Finance Committee will declare by resolution the rate of percentage, as applied to each employee's salary, which will be allotted in stock to each classes A, B, C, D, E, and F and to the individuals named in class AA.

2. "Junior" bonuses may be awarded to all other employees on the recommendation of the head of a division

approved by the Bonus Committee, the amount of each award not to exceed one-half of the annual compensation of the recipient. Junior recipients should be employees who are "intelligent and earnest workers, capable in their positions and not easily replaceable should they leave the corporation's employ."

(a) The amount available for junior bonuses shall be distributed between divisions in the ratio that the total payroll less salaries of $2,400 and over per annum in each division bears to the total payroll less salaries of $2,400 and over per annum in the whole corporation.

(b) The total value of bonus stock which may be awarded each year as junior bonuses shall be approximately from 1½ per cent to 2 per cent of the amount of the earnings after deducting 6 per cent on the amount of capital employed in the business of the corporation.

3. Except with the approval of the president no employee shall be placed on the senior or junior bonus list unless he has been in the employ of the corporation at least one year.

4. "Royalty" bonuses may be allowed for inventions, suggestions or improvements which result in an annual monetary saving which can be ascertained with reasonable accuracy, the granting of which will be entirely irrespective of the corporation's earnings, each case being considered on its merits without regard to departmental lines or limits as to length of service.

The amount of each royalty bonus which may be allotted will be determined as a percentage of the actual value to the corporation for the first five years of utilization of an invention, idea or suggestion. For the purpose of consideration of the following paragraphs the term "invention" wherever used will be understood to refer to an invention (whether patentable or not), idea or suggestion.

The minimum percentage applied to the value of the ensuing five years' use of the invention for royalty bonus award, subject to the qualifications hereinafter named, is

established at 7½ per cent and the maximum at 20 per cent, after deducting.

A—The cost to the corporation of the invention.
B—Six per cent for interest on the additional capital required for the invention's utilization;
C—Reasonable amortization or depreciation charge on equipment or buildings required.

It is obvious that the proper recognition by royalty bonus awards is bound to vary in different cases, depending on such factors as the condition under which the invention was envolved, originality of conception, the duties and opportunities of the recipient, etc. An employee paid to produce a result will not be entitled to participate in the royalty bonus, except for extraordinary or exceptional inventions.

The following percentages are suggested as meeting the equities and are to be observed as far as possible:

	Per cent
Base per cent to be allowed on invention	12½
Additions	
For great originality	2½
When corporations will presumably enjoy exclusive use	2½
When an invention is outside of the usual duty of the beneficiary	2½
Deductions	
When an employee applies a well-known principle or practice	2½
When an employee is specifically employed to accomplish the result awarded	2½

FURTHER LIMITATIONS

The total award to date when allotting a royalty bonus to a single individual shall be at a maximum of 20 per cent up to $50,000; not exceeding 10 per cent between $50,000 and $100,000; not exceeding 5 per cent up to $200,000, which shall be the largest

amount allotted to any one individual for a single invention.

Awards royalty bonuses shall be made in three parts:

1st—There shall be awarded for the first year of the commercial use (based upon an actual service of at least six months) of an invention one-fifth of the then estimated total award, i.e., from 1½ as a minimum to 4 per cent as a maximum of the estimated net saving to be realized by the corporation in the first five years of the utilization of the invention;
2nd—To be awarded two years after the first part and to amount to the difference between the first award and the net saving for the first two years at the rate established at the time of the first award; plus one-fifth of the estimated saving for the third year.
3rd—To be awarded at the end of the first five years of the utilization of an invention and to consist of the balance of the net saving during five years at the rate established at the time of the first award.

In case of difficulty arising in the computing of the actual value in any case, a first or second and a final award may be made in the discretion of the Bonus Committee.

5. Recommendations for junior and royalty bonuses shall be made as follows:

A—President's list—By the president for the consideration and final action by the Finance Committee in the case of heads of divisions and all salaried employees not under the jurisdiction of the head of a division, and individuals transferred to this class upon the recommendation of the head of a division with the approval of the president.
B—Division lists—By the heads of divisions to the Bonus Committee for final action in the case of employees recommended, with the same character of duties of each employee recommended, the amount of bonus, the reasons therefore, and the name of officials approving same.

6. Beneficiaries retired on a pension (should such a system be in effect) shall not forfeit any rights with respect to bonuses awarded.

7. After the annual meeting of stockholders in each year the president shall appoint a Bonus Committee, of

which he shall be ex-officio, a member, which committee shall be authorized and empowered to approve the senior bonus list positions, the junior bonus list and royalty bonus list, to make recommendations for bonuses, and to grant bonuses in all junior and royalty bonus cases.

8. In determining the number of shares in the bonus awards fractions of one-half or over shall be granted as a full share and less than one-half disregarded.

9. If it should become necessary, owning to business conditions, to temporarily release a number of employees, who, had they remained in the service of the corporation, would have been entitled to bonus awards and who it is expected will be re-instated within a reasonable period, that such employees may be recommended for bonus awards either senior or junior, covering the year in which they were released. These recommendations will be carried on a "reserve list," until such time (not exceeding one year from the date of employee's release) as it is definitely decided whether or not employee will be re-instated.

COMPANY STOCK AS A SERVICE BONUS

M. Lowenstein & Sons, Inc.,
New York City

One hundred thousand dollars of first preferred stock of M. Lowenstein & sons, Inc., New York City, converters and manufacturers of cotton goods, bearing dividends at the rate of 7 per cent a year, payable quarterly, were allotted on July 1st, 1920, to employees having three years' continuous service and others who, in the judgment of the company, merited reward.

This stock was deposited with the company's council, a trust for the benefit of employees within the class of July 1st, 1920. The idea was to give each participant a personal incentive "to continue the efficiency and loyalty

which the company appreciates and seeks to retain." The plan is as follows:

If the participant continues with the company until October 1st, 1922, the allotted stock will then be delivered and become the absolute property of the participant. In the meantime, the dividends declared from time to time will be paid quarterly, as the absolute property of the participant. The first dividend will be paid September 1st, 1920.

If any participant should die before October 1st, 1922 (being then in the company's service), the allotted shares of the deceased participant will be immediately delivered to the appointed beneficiary.

If any female participant shall marry before October 1st, 1922 (being then in the company's service), the allotted shares of said participant will immediately be delivered to her.

If any participant's connection with the company shall be severed before October 1st, 1922, such participant's interest shall immediately cease and endure (in proportion to their several holdings), to the benefit of the participants of July 1st, 1920, who remain with the company until October 1st, 1922.

In determining the amount to be allotted to each participant the officers took into consideration, length of service, position, advancement during service with company; ability, efficiency, salary and effort exerted to create success and benefit for the company.

A SERVICE BONUS AS A PRODUCTION INCENTIVE

Braender Rubber and Tire Company,
Rutherford, N.J.

After consideration of many plans for suitably rewarding employees who have continued in the service for a year or longer, the Braender Rubber and Tire Co. adopted a plan described below. The announcement to employees posted throughout the factory contained the following statement:

In placing the length of service plan in operation, the company shall expect the cooperation of all employees to insure its success and continuance so that next year and the years to follow the skill and loyalty that the company are capitalizing shall bring results in increased production and a lower proportionate operating expense.

You all know that as the cost of living has advanced, the company have increased wages and time-rates, and while this has been going on, *all* materials that enter into the manufacture of our goods have advanced in price which is some instances amount to more than 300 per cent, *yet the company are not receiving any more money for their product.*

Here then is where the company hope to recover for their outlay of the rewards for skill and loyalty.

VOLUME OF PRODUCTION

Each employee to bring every effort toward increasing their output; each day's work showing an advance over the previous day, so that every person's record for the week will be an improvement over the one before. Every one in this establishment can contribute toward this result, no matter what class of work they may be engaged in. Those working on calendar, mill, compounding, bead, press, inspection, wrapping, shipping, tire-making, heater, tube operations, office, sales, and in fact every unit in the entire organization can add something toward *volume of production.* Bear this important fact in mind: that a large production costs less in proportion than a small production, and if we can increase our output to the extent of each person doing his utmost, there will undoubtedly be justification for the company's outlay in their rewards for skill and loyalty and lower cost of production.

DECREASED OPERATING EXPENSE

Those operating machines can add to or lower operating cost according to their skill or lack of that quality. A careful and conscientious worker will run his machine as if it had been purchased by himself; he will avoid strain that would rip out gears, he knows when and how to favor it to get the best results and in studying these things he is keeping down the maintenance cost. The one who does not follow this course is doing something to defeat the aims

of the careful and conscientious person and therefore is blocking the company's efforts to reward skill and loyalty. Any saving that can be established in any direction will help to make the new plan a success. All this is worth your deepest study and means dollars to you as well as to the company.

PERCENTAGE SCHEDULE FOR 1919

One year, 2½ per cent; 2 years, 3½ per cent; 3 years, 5 per cent; 4 years, 7½ per cent; 5 years, 10 per cent; 6 years, 11 per cent; 7 years, 12 per cent; 8 years, 13 per cent; 9 years, 14 per cent; 10 years, 15 per cent.

The above percentages will be paid January 15, 1920, on the amounts you have received during the fifty-two weeks covering above period.

This is based upon continuous service and not intermittent, with the exception of those entering the service of the United States Government for military duty, also disability and sickness, in which event the elapsed time shall not count.

If at any time you remain away on account of disability or sickness, it will be necessary for you to notify the office by mail, in order to continue your benefits.

This plan is subject to change, revision or cancellation by the company and is not to be construed as a contract, but the company hopes to continue it indefinitely, which, however, will depend upon the cooperation of the employees.

LENGTH AND CHARACTER OF SERVICE DETERMINES BONUS

A "CREDIT SYSTEM" OF WAGE PAYMENT [1]

CHICAGO MOTOR BUS COMPANY

A novel system of wage payments has been adopted by the Chicago Motor Bus Company, whereby each

[1] From Electric Railway Journal. 51 : 89-90. January 12, 1918.

employee's earnings are dependent upon a "rating" that is established by the length and the character of his services. The new plan, which has been called the "credit system" by its originator, Harold B. Weaver, vice-president of the company, applies to all drivers, conductors, starters, inspectors and others occupying comparable positions. Its application is effected by means of "credits" which are given for each month's service and entered upon each employee's record, certain "discounts" being deducted from the total in case the employee violates rules of the company. Older employees who, by their long service have acquired a very large total number of credits, participate to a certain extent in the company's earnings through "employees' dividends," these being declared as a percentage of the employees' annual earnings at the same percentage rate as is paid upon the company's stock.

Credits and Discounts

There are three kinds of credits, as follows: regular credits, which are given for one month's service; extra credits, which are given for continued perfect service; bonus credits, which may be given in the discretion of the company for extraordinary services or on a competitive basis under prescribed conditions.

Regular credits are given at the rate of twenty-five for each month that an employee remains in the company's service, regardless of his capacity. Extra credits are given after any three consecutive calendar months of perfect service, that is to say, three calendar months during which no discounts have been imposed. Such employees receive five extra credits per month from the fourth to the ninth month (inclusive) of continued perfect service, and thereafter are given ten extra credits from the tenth to the twenty-first month (inclusive) subsequently being given fifteen extra credits per month so long as perfect service is continued. Bonus credits may be given at any time for extraordinary services or

unusually efficient work, upon the recommendation of a superior officer and with the approval of a board of employees of the same rank as the recipient.

In the case of violation of any of the rules, there shall be charged to the record of an employee a number of discounts ranging from one to fifty, according to a printed schedule of discounts. These discounts are imposed only by the heads of departments or general company officers, and their application cannot be remitted in case infractions of discipline have actually taken place. Neither can there be imposed any greater number of discounts than fifty for any particular offense.

The record of each employee's credits and discounts are kept by the company, and each employee has the right of access at any time to his own record, but not to the record of any other employee. The total number of credits obtained from all sources and total number of discounts imposed for all reasons are totaled at the end of each calendar month, and the total number of discounts substracted from the total number of credits. The balance of credits represents the "rating" of each employee, and this rating is used as the means for determining his rate of wage and, subject to certain conditions, his right of preference as to work and promotion.

Whenever discounts are charged against the record of an employee, written notification is submitted to him, and in the event that an employee believes a charge of discount to be unjust or otherwise in error, he has the right of appeal by signing his name in the space provided on the notification for that purpose. Such appeals are heard before a board appointed by the president of the company from among officials equal or superior in rank to the one imposing the discount. Witnesses in such hearings may be called by either side, and these are paid their regular rate of wage for the time thus occupied.

Effect of Discontinuance of Service

In the event that an employee resigns or is laid off through reduction of force, or if for any other reason not reflecting upon his record he leaves the service of the company, he is given a certificate of honorable discharge which shows his rating at the time. If he again enters the service of the company he starts to work with all of the credits that he possessed at the time he left the service and is entitled to whatever rate of compensation this rating brings.

In the event that an employee again enters the service of the company after he has been discharged for cause, he has to start on his duties without any credit whatsoever. Dishonorable discharge is brought about by a failure to perform work assigned to an employee, thus automatically forfeiting all credit acquired up to that time. Discharge is also brought about by the establishment, on an employee's record at the end of his first two months of service, of more discounts than credits. Also, any employee who has been with the company for a period in excess of four months and who for any period of three consecutive months averages less than fifteen credits per month, or for any period of six consecutive months averages less than eighteen credits per month, or for any period of one year averages less than twenty credits per month, is subject to discharge.

Demotion without discharge may be applied at the discretion of the company, but such demotions do not effect an employee's rating nor do they suspend his right to extra credits.

Credits continue to accrue to the benefit of an employee while on a regular vacation, but in case an employee obtains an extended leave of absence from work the accumulation of regular credits during the period of absence is in the discretion of the company, and extra credits for continuous good service do not accumulate.

Effect of Rating on Wage

In the schedule of wages seven different classes are provided for, these differing from each other by increments of 1 cent per hour, each class including employees whose ratings, or net total of credits for each month have upper limits amounting respectively to 150, 300, 450, 600, 900, 1200 and 1500. The rates of wage applying to each one of these classes are more or less arbitrarily fixed and may be revised from time to time, the operation of the system being independent of the actual rates of pay by the various classes. Thus if the rate of wage for conductors in Class G (the lowest of the seven classes) is 26 cents, all conductors with ratings of less than 150 will get 26 cents per hour. When a conductor accumulates more than 150 credits he moves up into Class F and is paid 27 cents per hour.

For employees having ratings that are in excess of fifteen hundred credits, there are provided five grades, and these employees, in addition to class A wages, participate in the company's earnings through an "employees' dividend." This is declared at a rate which, if possible, is to be equal to the dividend declared on the stock of the company for the same period, but in no case is the employees' dividend to be less than at the rate of 3 per cent per annum. This dividend is to be based on the total amount of money paid during the period involved, as wages to each of the employees participating in the dividend.

All employees in the five grades that have, during the period covered, earned an average of not less than twenty credits per month are to be entitled to participate in this dividend. Each of those in the lowest grade is entitled to an amount equal to the declared percentage applied to his total earnings during the period covered. For each employee in the next higher grade, the amount of the dividend is based on the same percentage as in the lowest grade, but this percentage

is applied to twice his total earnings during the period covered. For the three higher grades the amount is based respectively on three times, four times and five times the employees' total earnings during the period covered. Thus, if employees' dividend is 6 per cent, the employees in the highest grade receive bonuses equal to 30 per cent of their earnings during the previous year.

In general, it may be said that this system permits employees to enjoy an income which increases over a long period of time and is an inducement for them to remain in the service of the company. Long service not only produces individually efficient work, but also efficiency of the all-important character that cooperates with other members of the organization and is thus of special value to the company. The company recognizes that each employee who remains in its service has, in a sense, an investment value in the company. This is the investment of years of service which, except for general experience gleaned, is of no value to him in the service of another company. Naturally, such a principle points to an eventual participation in earnings by employees, but inasmuch as it is continuous service that is of value to the company, and since it is continuous service alone that is an investment by the employee, any participation must be purchased not with money but with time. In brief, the right to participate in earnings does not accrue to an employee who has not earned this privilege by a certain length and character of service.

SERVICE AND SALARY DETERMINE BONUS

White Sewing Machine Company
Cleveland, Ohio

For continuous service of five years or more, 10 per cent in addition to regular wages.

For continuous service of four to five years, 8 per cent in addition to regular wages.

For continuous service of three to four years, 7 per cent in addition to regular wages.

For continuous service of two to three years, 6 per cent in addition to regular wages.

For continuous service of one to two years, 5 per cent in addition to regular wages.

For continuous service of six months to one year, 4 per cent in addition to regular wages.

Rules Governing Payment

1. Bonuses or extra wages will be paid four times per year. The year will be divided into four parts, to be called bonus periods. These bonus periods will end with the last regular pay in March, June, September and December.

2. The amount of bonus for every employee will be figured on the total regular wages he has earned during each bonus period.

3. No bonus will be paid for less than a whole period.

4. Lump sum payments of bonus money will be made on the second Wednesday following the end of a bonus period.

5. Every factory day- and piece-worker who has been continuously in the service of the company for five years or more at the end of a bonus period will be paid a sum equal to 10 per cent of the total regular wages he has received during that bonus period.

6. Every factory day- and piece-worker who has been continuously in the service of the company at the end of a bonus period of four year but less than five years, will be paid a sum equal to 8 per cent of the regular wages he has received during that bonus period.

7. Every factory day- and piece-worker who has been continuously in the service of the company at the end of a bonus period for three years but less than four years, will be paid a sum equal to 7 per cent of the total regular wages he has received during that bonus period.

8. Every factory day- and piece-worker who has been continuously in the service of the company at the end of a bonus period for two years but less than three years, will be paid a sum equal to 6 per cent of the total regular wages he has received during that bonus period.

9. Every factory day- and piece-worker who has been continuously in the service of the company at the end of a bonus period for one year but less than two years, will be paid a sum equal to 5 per cent of the total regular wages he has received during that bonus period.

10. Every factory day- and piece-worker who has been continuously in the service of the company at the end of a bonus period for six months but less than one years, will be paid a sum equal to 4 per cent of the total regular wages he has received during that bonus period.

11. In the future an employee laid off because of lack of work will be paid immediately a bonus on the wages he has received since the last bonus settlement, on the same terms as if he had completed the bonus period. If employed again within a year from date of lay-off he will be given full credit for length of former service.

12. An employee who leaves of his own accord, or an employee who is discharged for cause, will not be paid any bonus on the wages he has earned since the last bonus settlement. If again employed he will not be given credit for former service.

13. Loss of time by reason of sickness or accident will not be considered as an interruption of service.

2. Vesta Accumulator Company, Chicago

The experience of this company in establishing its plan will be of value to readers. The first attempt of the company consisted of paying to each employee, as a Christmas gift, a fixed sum, regardless of length of service or wages earned, the amount so paid being governed by the amount of net earnings of the company during the year. This was unsatisfactory for several reasons, and in one instance, when the net earnings were quite small, the amount allotted to each employee was so slight that it was received with more or less open contempt.

The company next instituted a method of distribution based on length of service, dividing the same into three period—i.e. over three months and less than six; over six months and less than a year; and over a year. This was a step in the right direction, but was still faulty in that it did not differentiate between the high salaried employee and the day laborer.

The plan was then devised of distributing the bonuses based upon length of service and total amount wages received during the year, working it out in the following manner:

Less than one year's service.	1 per cent of total yearly wages
One to two years' service.	2 per cent of total yearly wages
Two to three years' service.	3 per cent of total yearly wages
Three to four years' service.	4 per cent of total yearly wages
Four to five years' service.	5 per cent of total yearly wages
Five to six years' service.	6 per cent of total yearly wages
Six to seven years' service.	7 per cent of total yearly wages
Seven to eight years' service.	8 per cent of total yearly wages
Eight to nine years' service.	9 per cent of total yearly wages
Over nine years' service.	10 per cent of total yearly wages

3. New England Machine Shop

A machine shop in one of the New England states pays the following bonuses to employees for service and for "loyalty rendered the company".

	Per cent of wages
Service of one year and under	4 per cent
One year and under three	6 per cent
Three years and under five	8 per cent
Five years and over	10 per cent

These percentages are computed on total wages or salaries earned for the period of one year.

4. Brighton Mills, Passaic, N. J.

The following plan of the Brighton Mills, Passaic, N.J., which employs about eighteen hundred.

The "annual continuous service reward" follows:

First year	5 per cent	Sixth year ...	12 per cent
Second year ..	8 per cent	Seventh year .	13 per cent
Third year ..	9 per cent	Eight year ...	14 per cent
Fourth year ..	10 per cent	Ninth year ...	15 per cent
Fifth year ...	11 per cent	Tenth year ...	10 per cent

Mills payroll at the end of each year of continuous service, commencing with the first year.

Service Button

In addition to this a celluloid button will be given to those who have been in service one year.

A bronze button will be given to those who have been in the service from two to five years.

A silver button will be given to those who have been in the service from five to ten years, and a gold button will be given to those who have been in the service ten years or more."

Executives are paid commissions based on earnings of the company.

5. International Silver Company, Meriden, Connecticut

The following plan covers the four thousand employed in the fifteen plants of the International Silver Company, Meriden, Connecticut. All employees who have been with the company five years or more, except salaried workers are included. The bonus is paid annually and consists of 5 per cent of the yearly earnings of the company. Foremen as well as salaried workers are not included in the plan which replaces the previous attendance bonus to which foremen were eligible. The new plan was established December 15, 1921.

6. Alexander Smith and Sons, Yonkers, N. Y.

Since 1921 this company has given its employees a bonus of a percentage of their earnings for a six months'

period. The percentage is changed from time to time, the usual being 5 per cent for one year, 6 for two years, and so on up to 15 per cent for eleven years and over.

For the six month period ending December 31, payment is made on the following February 1, and for the six month period ending June 30, payment is made on the following August 1.

7. A Middle West Manufacturing Concern

The plan of this company provides the following bonuses based on amount of wages:

Service of one year and under.....	4 per cent
One year and under three.....	6 per cent
Three years and under five.....	8 per cent
Five years and over.....	10 per cent

8. General Electric Company, West Lynn, Massachusetts

After continuous service of five years employees receive a semi-annual bonus at the rate of 5 per cent per annum on their actual earnings. This is not permanent, but is determined each six months by the officers of the company depending on conditions of business. So far it has been paid each half year since about 1915.

9. Hercules Powder Company, Wilmington, Delaware

The plan is called a "merit bonus plan" and makes the following provisions:

After two years' service 5 per cent of average monthly earnings.

After five years' service 10 per cent of average monthly earnings.

After fifteen years' service 20 per cent of average monthly earnings.

10. Fourth National Bank, Atlanta, Georgia

This bank, in 1920, paid a bonus of 6 per cent of annual salaries to employees of less than one year's

service, 7 per cent to those of one year, and so on up to 14 per cent for eight years. Officers received 25 per cent.

In 1921 this scale was changed to 4 per cent for those of less than one year's service, up to 10 per cent for six years, and 10 per cent for officers.

SERVICE, SALARY AND COMMON STOCK DIVIDEND RATE DETERMINE BONUS

A Large Manufacturing Concern

A prominent manufacturing concern which employs between five hundred and one thousand has the following plan which has been in successful operation since 1917. "This plan," says the company, "is intended to secure intensified cooperation and better services through a relationship which though conditional upon personal merit, loyalty and length of service rather than upon the earnings of the company, resembles somewhat a copartnership between the stockholders and employees."

The amount of compensation payable is dependent upon length of service, regular annual salary and the rate of dividends paid upon the common stock of the company and is payable on the quarterly dividend dates.

A committee consisting of the assistant secretary of the company, the superintendent, and the office manager were appointed by the president to handle administrative questions concerning the operation of the plan.

Regulations

1. Under the plan the employee's regular annual salary after the first year of employment is considered capital on which the additional compensation is based.
2. The qualifications under the plan are:
   (1) The employee must render loyal and efficient service.

   (2) The plan applies to all employees who are on a salary basis, but excludes all who participate in any commission, piece-work or task and bonus basis.
   (3) The employee must have been continuously in the direct employ of Pyrene Manufacturing Company for at least one year on a salary basis, and must also have been on a salary basis during the whole period for which the additional compensation is paid.

3. For the purpose of the plan the extent to which the employee's salary is considered as capital, in other words his "capitalization," shall be the amount of his annual salary rate which is in effect on his "anniversary date," that is, the quarterly dividend date following his last full year of employment.

Example A. John Smith enters the employ of the company on January 15th, 1918. On February 1st, 1919, he completes one full year of service during which time he has received various increases in salary. On February 1st, 1919, his salary is at the rate of $800 a year. His "capitalization" is therefore $800.

This capitalization is increased for each year of service by adding to the last annual salary rate 10 per cent thereof for each full year of employment after the first year, but not more than ten years. Such increase of capitalization takes effect even though there may have been no increase in salary.

Example B. William Jones entered the employ of the company on March 12th, 1915. He therefore completes four years of service on May 1st, 1919, on which date his salary is $1,200. To this is to be added 10 per cent for each of the last three years, or 30 per cent of $1,200, making a total capitalization of $1,560.

The capitalization, therefore, can never exceed twice the amount of an employee's salary as it exists on his last anniversary date.

4. Until further notice the rate of compensation shall be as follows:

Whenever a quarterly cash dividend in excess of 1½ per cent is declared and paid on the then outstanding common stock of the company (i.e., at the rate of 6 per cent per annum) each employee entitled thereto shall receive a percentage on his capitalization equal to the excess of such cash dividend over 1½ per cent. Such additional compensation shall be paid in quarterly installments on February 1, May 1, August 1 and November 1, for the three preceding months.

Example C. On August 1, 1919, the company declared and paid a quarterly dividend of 2½ per cent. If on May 1, 1919, William Jones' capitalization was $1,560, on August 1 he receives a check for 1 per cent on his capitalization, or $15.60.

5. No additional compensation shall be paid for any part of the first year's employment or for any fraction of any quarterly period.

6. An employee who enlisted or who was drafted into the military service of the United States or any of its Allies, does not lose his standing with regard to length of service, and should he be reemployed by the company immediately after his discharge, he receives full credit for the period of his absence in computing his capitalization.

7. Discontinuance or termination of employment by either the employee or the company, with or without cause, and for whatsoever reason, shall forthwith operate as a forfeiture to the company of any unpaid additional compensation or salary. Should any employee be reemployed at a later date the length of service shall date from the date of re-employment.

8. The president of the committee or the committee, shall, from time to time, in his or their sole discretion,

determine the qualifications of employees under the plan, and the amount of, and the time and manner of making payments under the plan. Neither the plan nor these regulations shall be construed as giving any employee any interest in the capital or assests of the company under any conditions whatsoever, but only in the current profits of the company, subject to the terms and conditions herein set forth, and conditioned upon the favorable determination by the president or the committee of such employee's loyalty, efficiency and other qualifications. The president or the committee shall have power, from time to time, and with or without notice, to construe, modify and amend these regulations, and to issue new or additional regulations. The Board of Directors of the company may, with or without notice, rescind the plan and the regulations then existing. The committee shall decide all questions concerning the operation of the plan, subject only to review by the president. Whose decision shall be final.

PROFIT-SHARING AS A SERVICE BONUS [1]

1. Hibbard, Spencer, Bartlett and Company, Chicago

This plan was adopted by the stockholders January 18, 1921, and became effective as of January 1, 1921. The time of operation has been too short for the company to say whether or not the plan will prove successful, but subscribers will be interested in the details of the plan. For several years before this plan was adopted, the company had a profit-sharing plan based on length of service, but that did not prove successful and it was abandoned.

The company has a plan for stock distribution whereby employees whose terms of service have been three years

[1] Other profit-sharing plans containing service bonus features will be found under the section "Profit-Sharing."

are permitted to buy an amount of stock not exceeding ten shares. Liberal assistance is given such employees in paying for the stock in instalments.

THE PLAN

1. Hibbard, Spencer, Bartlett and company will set apart for the stockholders out of its earnings for 1921, and annually thereafter, an amount equaling 8 per cent of the invested capital, according to its book value.

2. The profits in excess of the percentage so set aside for the stockholders will be divided equally, as hereinafter provided, between the stockholders and employees.

3. The profits to be divided under this plan shall be only those arising from the purchase and sale of merchandise and shall not include profits which may accrue from the ownership of other assets, such, for illustration, as lands and buildings.

4. All employees in continuous service for a calendar year or more, including officers and stockholders, but excluding country traveling salesmen, to share in profits in proportion to salaries paid them. In calculating salaries, commissions, premiums and piece-rate bonuses to be included, but payment for overtime work to be excluded.

5. The distribution of profits to employees will be made during the month of May, following the closing of the books for the year, to those still in the service of the corporation.

6. If an employee leaves or is discharged during the year, or before the distribution of profits in the month of May following, he forfeits any share in the distribution; except that if an employee dies or is pensioned, his share will be paid to him or his estate.

7. A temporary discontinuance of employment, through special leave of absence, sickness or accident disability, will not, for the purpose of this plan, be considered a break in the continuous service of an employee.

8. It should be understood that nothing in this plan

shall bind any employee to remain for any period in the employ of the company, nor shall it bind the company to retain any employee in its service for any period. The right of each employee to leave the service of the company for any reason, and the right of the company to terminate for any reason the service of any employee, shall remain unaffected by this plan or by any thing done under it.

9. It is the intention of the company to continue this plan permanently, but it reserves the right to change or terminate the plan at the end of any calendar year; provided that notice of such decision shall be given not later than the first day of the month of February following.

10. The Board of Directors of the company shall have charge of the operation of this plan. It shall have power to interpret the provisions of the plan and exercise such discretion and make such decisions as are necessary to the proper operation of the plan. The board shall have power to prescribe rules and regulations for the effective operation of the plan. All orders and decisions of the said board shall be final, conclusive and binding upon all parties.

2. CHICAGO TRUST COMPANY

The following plan for additional compensation for officers and employees of the Chicago Trust Company has been in operation since January 1, 1920.

1. An amount equal to 3½ per cent of the net earnings for the year shall be set aside for distribution to employees (not officers).

a. The net earnings shall be so much of the gross earnings, receipts, and credits of the bank's business for the year as shall remain after deducting all expenses incurred in the conduct of the business, including taxes, interest, and other charges, and all losses, depreciations, charge-offs, or reserves created for any purpose, as entered upon the books of the bank for the year, but

before payment of dividends. The determination of such net earnings by the Board of Directors shall be final.

2. After deducting from such net earnings the amount set aside in Paragraph 1 and in addition an amount equal to 8 per cent of the stockholder's interest in the bank, as determined by the average amount of capital, surplus, and undivided profits shown on the books at the end of each month during the year, a further sum shall be set aside equal to one-fifth of the net earnings as so reduced. This fund shall be distributed as follows:

Forty per cent among employees (not officers).

Forty per cent among senior officers, chiefly responsible for the production of business and the conservation and management of the bank.

Twenty per cent among other officers.

The classification of officers shall be made by the Board of Directors at or about the beginning of each calendar year.

3. The distribution of both the employees' funds and the officers' funds shall be on the following basis:

Fifty per cent of the fund of each group shall be distributed to the individual on the basis of the ratio of the individual salary to the total salary in the group.

Thirty per cent of the fund of each group shall be distributed on the basis of the ratio of current yearly salary of the individual multiplied by years of service, not exceeding ten years, to the total of yearly salaries multiplied by years of service.

Twenty per cent of the fund of each group, comprising a special service fund, shall be distributed by the Board of Directors on the recommendation of the president to those individuals who have rendered special meritorious service during the year.

RULES GOVERNING ADDITIONAL COMPENSATION

1. Plan applies only to officers and employees of the bank.
   a. Who are in the regular employ of the bank.
   b. Who are in the employ of the bank for not less than one year.
   c. Who do not participate in some other form of additional compensation beyond their regular salary, such as commissions and special contracts.

It is hoped that as rapidly as any existing arrangements expire the entire staff of the bank will be on a uniform basis.

2. The bank reserves the right, before the commencement of any calendar year, through its Board of Directors, to modify this additional compensation plan in any respect, or to discontinue it.

3. The bank reserves the right, through its Board of Directors, to exclude from the benefits of this plan any officers or employees, the character of whose work shall not have been satisfactory, or who shall have been employed for special purposes.

4. Any officer or employee who from any cause shall not be in the service of the bank at the end of any calendar year shall have no right to a share of such additional compensation for such year unless the Board of Directors shall otherwise determine.

5. For all years other than the current calendar year, a fraction of a year in excess of six months shall count as a full year.

6. This plan replaces any existing plans of bonus or additional compensation employed in the past, except where contract exists.

7. The designation of senior officers in the year 1920 shall be as follows:—

The President.
Vice-Presidents.
Manager of the Bond Department.
Managers of the Real Estate Loan Department.
Manager of the Trust Department.
Cashier.

8. The designation of junior officers in the year 1920 shall be as follows:

Trust Officer.
Assistant Cashiers.
Assistant Manager of Trust Department.
Assistant Manager of Real Estate Loan Department.
Auditor.

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FINANCIAL INCENTIVES FOR EMPLOYEES AND EXECUTIVES

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CONTENTS OF VOLUME II

PART III

PAGE

CHAPTER 11. Thrift Plans 3
CHAPTER 12. Profit-Sharing 58
CHAPTER 13. Stock Participation Plans..... 128
CHAPTER 14. Mutual Benefit Associations..... 176
CHAPTER 15. Pension Plans 217

PART IV

CHAPTER 16. Incentives in Retail Stores..... 255
CHAPTER 17. Compensation of Salesmen 310
CHAPTER 18. Compensation of Office Workers... 347
CHAPTER 19. Incentives for Foremen and Executives 361
INDEX 403

PART III

CHAPTER XI

THRIFT PLANS

HOW THRIFT PLANS ARE ADMINISTERED[1]

The various plans studied in this survey are grouped according to the three general methods of handling the funds:

Type 1. In which the savings of the employees are collected in a fund which is administered by executives or employees of the company.

Type 2. In which a separate organization, such as a subsidiary bank or a credit and loan association, is created within the company to administer these funds.

Type 3. In which the company acts merely as agent for local banking institutions, collecting and forwarding the employees' savings to them, or adding to existing deposits.

Type 1. A Fund Administered by Company or Employees

The plans under which the employees' savings are collected in a fund which is administered by executives the company are variously named. Besides the ordinary "savings plans" and the Hood Rubber Company "Thrift Club" there may be noted the General Motors Company "employees' savings and investment funds" the "employees' participation fund" of Butler Bros., Chicago, the "appreciation fund" of a western varnish manufacturer and the "credit system" of the National Blank Book Company. The Metropolitan Life Insurance Company began its employees' savings plan in 1900, that of Edison

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Company of Brooklyn dates from 1910 and the John B. Stetson Company of Philadelphia was apparently a pioneer when it established a savings fund in 1896.

The funds are generally administered by a board, and in several cases, notably those of Sears, Roebuck and Company, Butler Brothers and the Metropolitan Bank of St. Paul, trustees are provided for, three of whom must be officers or directors and two employees. The Metropolitan Life Insurance Company, on the other hand, leaves the composition of its fund's board of seven trustees entirely to the directors, whereas the Hood Rubber Company thrift club has only a single trustee.

No uniformity was found as to whether savings were accumulated through deposits or whether deductions from wages by the company were arranged. A representative of the Plimpton Press stressed the importance of having collections made on pay day. At one time each department of the firm had its official collector, to whom deposits could be given at that time.

Some firms accept any amount the employee may wish to save or fix a nominal limit. The John B. Stetson Company allows deposits in its fund of from 10 cents to $10 a week, and employees may also put bonuses of any size into the fund. But there is a tendency among these concerns which give considerable aid to their employees' savings funds to require fairly large deposits on the one hand and to fix a maximum in relation to wages on the other.

Thus the Brooklyn Edison Company requires a regular weekly deposit of 3 to 5 per cent of wages, or as an alternative at least $5 a week while the Builders' Iron Foundry of Providence limits deposits to 10 per cent of wages. Frequently the two limits are combined. Sears, Roebuck's plan demands a saving of 5 per cent of wages up to a maximum of $150 a year. The reasons for such limitations are evident—to avoid both the expenses of book-keeping with very small sums and the

assumption of over-large obligations in the aid given by the company.

In regard to this last factor, certain companies add liberal bonuses to their employees' savings. The General Motors Company offers to double them, the Metropolitan Life Insurance Company adds 50 per cent; Sears, Roebuck; Butler Brothers and Harris Trust and Savings Bank of Chicago pay in 5 per cent of their net earnings.

In every case where such a provision is found, it is coupled with rules regarding withdrawals which limit such additions from the company to employees remaining with it for long periods. In other words, the bonus is intended to stimulate continuity of service as well as thrift. For instance the Westinghouse Electric Manufacturing Company rewards depositors in its fund, by increasing the amount of their free life insurance up to a maximum of $1500 for those with a fifteen year service record. It permits withdrawals at will, but reduces insurance prorata unless the deposit has been maintained for at least five years. The National Blank Book Company pays 6 per cent interest on amounts deposited the first year, 7 per cent the second, and so on rising to 10 per cent the fifth. Sears, Roebuck ordinarily pays the company's contribution only when the employee withdrawing has had at least ten year's service.

Few companies require long notice of withdrawals. In most cases where definite rules for investing funds are stated, the stock of the company is the investment medium selected. The Nunn, Bush and Weldon Shoe Company requires its employees' savings fund to be invested in the company's preferred stock "so far as practicable." Under the credit system of the American Wholesale Corporation employees make "loans to the company at the risk of the business." The American Wholesale Corporation of Baltimore allows the trustees of its savings fund to invest it or deposit it with the corporation at their discretion.

One bank, the Harris Trust and Savings of Chicago, makes the deposit of 2 to 5 per cent of salary in its savings fund compulsory on all employees of more than three years standing. It is worthy of note that the bank has specific provisions regarding the investment of the fund in bonds or mortgages in accordance with the banking rule for the investment of funds in trust.

Interest rates paid on such savings are conservative, usually ranging from 4 to 6 per cent, though of course wherever the employer adds a bonus to the deposits the return to the employee who fulfills the conditions is far greater than he could probably secure in any other way.

The Hood Rubber Company Thrift Club rules are illustrative of the operation of a savings fund not added to by the employer, while the American Wholesale Corporation's plan combines savings with profit-sharing under relatively liberal terms. The rules of the American Wholesale Corporation, having been worked out with unusual care, are quoted below in full.

PLAN OF THE AMERICAN WHOLESALE CORPORATION, BALTIMORE, MD.

(a) This plan will provide a fund which will enable employees to invest their savings and participate in the profits of the business of the American Wholesale Corporation, so as to encourage thrift, provided assurance of comfort in later years, care in sickness and permanent disability, or other unforeseen emergency, and make provisions for family in time of death.

(b) The corporation will contribute to the fund as soon as the certified public accountants have audited the books, and as certified by them, an amount equal to 5 per cent of the net profits for the period beginning July 1, 1920, to January 1, 1921, after deducting all taxes and fixed charges, including dividends on the perferred stock of the American Wholesale Corporation; and thereafter yearly. The profits of the last six months of 1920 shall be ascertained by dividing the net profits for the year 1920 in half.

(c) The contribution of the corporation shall not exceed in any one year double the amount of the employees' deposits for such calendar year, ending December 31, excepting when the board of directors desires to exceed that amount. Participating employees will be credited with their portion of the corporation's contribution in such proportion as the amount the company has contributed bears to the total amount deposited by all such employees during the same period.

(d) Any employee, excepting buyers, may voluntarily participate in the fund by signing written application to the trustees, subject to their approval, and depositing therein at the rate of approximately 5 per cent of what he receives on account of his weekly salary, to be deducted by the corporation's paymaster, which amount will be credited to the account of the employee and bear interest at the rate of 7 per cent per annum compounded annually.

(e) No employee may deposit in any year more than approximately 5 per cent of his salary, and in no case more than at the rate of $260 per annum.

(f) Any employee who has completed five years of participation in the fund may withdraw therefrom at any time thereafter while in the employ of the corporation the amount that is credited to his account, including his proportion of the corporation's contribution of the net profit up to the end of the preceding calendar year.

(g) Any employee who has not completed five years of participation in the fund may withdraw all the money he has deposited, plus 7 per cent interest per annum, compounded annually, but will not be entitled to any portion of the net profits contributed by the corporation or any other share in said fund or the income thereof. Any participant who ceases to be an employee of the corporation and who has not completed five years of participation in the fund must withdraw all the money

he has deposited, plus 7 per cent interest per annum, compounded annually, but will not be entitled to any portion of the net profits contributed by the corporation or any other share in said fund or the income thereof.

(h) A female employee who has contributed to the fund for one year and leaves the employ of the corporation to become married shall, subsequent to her marriage, shall withdraw all the money she has deposited, plus 7 per cent interest per annum, compounded annually, and her portion of the net profits contributed by the corporation up to the end of the preceding calendar year.

(i) A depositor who has participated in the fund for one year and becomes permanently disabled so that he (or she) cannot perform his (or her) usual duties, may withdraw all the money he (or she) has deposited, plus 7 per cent interest per annum, compounded annually, and his (or her) portion of the net profits contributed by the corporation up to the end of preceding calendar year.

(j) In the event of the death of a participant in the fund, after he has made his first deposit in the savings fund the beneficiary named by him or his estate as designated in his application shall receive from the fund the sum of $1,000 in lieu of the amount he may be entitled to according to the books of account up to the date of his demise, if the sum to which he may be entitled is less than $1,000; but in the event the amount to his credit is in excess of $1,000, the full amount to his credit, calculating his proportion of the corporation's contribution to the end of the preceding calendar year, shall be paid to his beneficiary or his estate as designated in his application instead of the $1,000.

(k) A depositor who withdraws before completing five years of participation cannot reenter the fund without the permission in writing of the board of trustees.

(l) Any participant who fails to regularly make his

deposit in the fund shall cease to have any further interest therein. Such depositor shall withdraw therefrom as provided in paragraphs F or G.

(m) A board of three trustees is to be elected on or before July 1, 1920, and thereafter in January of every year by the board of directors of the American Wholesale Corporation—one of the said three trustees to be an employee. The said board of trustees shall be empowered to manage and invest the fund or deposit same with the corporation, and to adopt such rules and amendments as in the board's discretion may be advisable to carry out this plan.

(n) The board of directors of the corporation shall have the sole right to decide all questions of interpretation of the plan and the rules pertaining to same, as well as all matters of accounting, and in any other matters or differences which may arise the decision of the board shall be final and accepted by all concerned.

(o) The board of directors of the American Wholesale Corporation reserves the right to discontinue the plan at the end of any calendar year by giving three months' notice in the form of an announcement, and after such announcement no new depositors will be permitted to participate in the plan. In such event, the fund, including the corporation's contribution up to the end of the preceding calendar year, shall be distributed as determined by the trustees among all participants prorata in proportion to their interest in the fund.

(p) Nothing in this plan shall deprive the American Wholesale Corporation of exercising its right to discharge any employee: neither shall any employee be deprived of the right to leave its service.

(q) It is understood and agreed that no employee participating in the plan may be permitted to transfer or assign his interest in the fund to any other person, but may do so to the American Wholesale Corporation.

Thrift Club of Hood Rubber Company

The Thrift Club of the Hood Rubber Company is administered by the Treasury Department of the company. The office of the club is located in the factory payroll office.

The rules of the club state that it is organized to "encourage thrift, economy, and savings among the employees by allowing them to loan their money to the company, and to provide opportunity for investment."

Payments of one dollar or more are made by employees on any business day. Interest is credited at the rate of 6 per cent per annum.

All money received from employees is used in the business of the company, or is invested in the preferred stock of the company. Such preferred stock is held by a trustee, under a declaration of trust for the benefit of employees holding receipt books.

Withdrawals may be made on any business day, but the company may require two days' notice.

The employee's account is closed when he leaves the company. In case of death, the legal representative of the member closes the account within sixty days.

The company may at any time pay off receipts, and treat them as withdrawals, or it may refuse money for investment from any employee.

Receipt books are not transferable or assignable.

Staff Savings Fund of the Metropolitan Life Insurance Company, New York City

The staff savings fund of the Metropolitan Life Insurance Company is administered by a Board of Trustees chosen by the Board of Directors of the company. The plan provides for a contribution by the company of amounts equal to one-half of the employees' deposits.

Any employee who has been in service one year is eligible, provided that during the calendar year preceding his application for membership his earnings were not in excess of $4,000.

The deposits of the employees are paid to the trustees, and by them deposited, together with the company's subscriptions, to the credit of the trustees, in a bank of trust company designated for the purpose by the trustees.

No employee is allowed to deposit in any one year an amount in excess of 5 per cent of his earnings for that year. An account is kept with each depositor.

The net income from the investments of the fund, after the trustees have deducted a guaranty fund to meet depreciation of investments, etc., is divided according to the part derived from the employees' deposits, and that derived from the company's contribution. The employee is credited with the interest on his own contributions.

A depositor retiring from the service of the company because he is permanently incapacitated by age or ill health, or one being honorably retired after not less than twenty years of continuous service, with the written approval of the majority of the trustees, is paid the whole of the amounts standing to his credit on the preceding 31st of December, with interest at the rate of 3 per cent per annum.

Upon the death of a depositor while in the service of the company, his legal representatives are paid the amount to which he would have been entitled had he retired as provided in the above rule. However, if a depositor retired from the service of the company for any other reason than as outlined above, he withdraws the deposits he has made, with interest at the rate of 3 per cent per annum, and forfeits the company's contribution.

A depositor may at any time withdraw from the fund his deposits, with interest at the rate of 3 per cent per annum. But no partial withdrawals are allowed; the depositor forfeits the company's contribution by withdrawing; and he is not permitted to again become a depositor.

The company does not contribute to the deposits of employees when their salary exceeds $4,000 in one year.

The rights of a depositor are not assignable or negotiable.

The trustees appoint an officer to conduct the business of the fund, and prescribed the manner of keeping and form of all accounts. The company pays all expenses incident to the administration of the fund except brokerage on the purchase or sale of investments and costs of the purchase and sale of property.

The Board of Directors may at any time close the fund.

Taylor Instrument Company

The Taylor Instrument Company has had its thrift plan in operation since April, 1920. The six hundred and seventy-two employees of the company are all eligible, and the company reports that 50 per cent of those eligible are participants in the plan.

It is the belief of the company that thrift plans should originate with the employees themselves. They should be allowed to select the bank in which deposits are to be made, and in every way possible, the savings society be made an employee's organization.

Deductions are made, by the request of employee, from the payroll, and deposited in the Tycos Savings Society fund in a local bank, on the first of each month. When the individual savings amount to $50 an individual account is opened under the saver's name. Deposits in the Tycos fund continue, however, and when they reach the sum of $50 they are transferred to the individual account.

Type 2. A Subsidiary Bank or Credit Association

Out of the plans in which separate organizations for savings are created, nineteen are of the savings and loan type. This is perhaps most familiar to the general public in the form of the building and loan association which finances the buying of homes. In some states the smaller scale "credit union," which makes character loans to

members is also becoming well-known. In both organizations members may buy one or more shares, paying a small sum for each share weekly or monthly until the shares are paid for. The money thus received is loaned for approved purposes, and returned in regular installments. The interest received becomes the property of the shareholders and is credited toward the cost of their shares.

Only five of the savings and loan plans here discussed are building and loan associations, however. The John B. Stetson Company has a building and loan association of long standing which makes 6 per cent first mortgage loans. The Eastman Kodak Company has two such plans, the one providing for first mortgage loans to buy homes to the amount of 70 per cent of the appraised value, the other, called the "Kodak Employees' Association," giving still further aid of this kind by arranging second mortgages of 15 to 20 per cent of the purchase price. The H. C. Godman Company of Columbus, Ohio, loans to outsiders as well as employees. Employees are shareholders, and the Jeffrey Manufacturing Company sometimes makes loans to home buyers.

But only fourteen plans make loans to employees on a smaller scale, a frequent maximum being $200. The loans are unsecured, except by the character of the applicant, and are intended to meet emergencies. The shares are usually paid for in a comparatively short time, some plans running a year and others for only six months. It is expected that when the series is closed and the proceeds divided, members will reinvest the money in a more permanent fashion or use it for some special purpose. A series is often closed just before Christmas or at vacation time for this reason. Occasionally, as in the Strawbridge and Clothier savings fund, provision is made for the reinvestment of shares. In this case the "special account" for lump savings, pays 5 per cent, and the directors of the fund have been empowered to make investments whenever the balance in the treasury

exceeds $100. Present investments are principally Liberty Bonds.

As in savings and loan association open to the general public, the withdrawal of deposits before shares are fully paid for is frequently penalized by the loss of all interest. The New York Edison Company arranges for five types of shares in its savings and loan association, having not only installment shares at a dollar a month, but three kinds of paid-up shares, and juvenile shares without voting power for minors in its employ. In this way it is expected to broaden the appeal of the plan.

Some of the oldest savings funds are found among this group. The Strawbridge and Clothier fund, just mentioned, was started in 1885, and the Stetson building and loan association in 1880. Other plants which organized such funds before the war include the Miller Lock Company (1892), Gorham Manufacturing Company (1900), Celluloid Company, (1906), Hibbard, Spencer and Bartlett Company, (1911), Joseph and Feiss (1912), Library Bureau (1913), and A. W. Shaw Company (1915).

In but few instances do the companies give financial aid to this group of funds. The John B. Stetson Company helps its building and loan association liberally paying the entire dues on shares given to selected employees. The A. W. Shaw Company agrees to borrow any surplus remaining above the loans and to pay the market rate of interest on it. The Celluloid Company makes a temporary advance of the amount outstanding in loans whenever a series of shares is closed, getting back its loan as fast as deposits are made in the new series.

Employers generally testify with emphatic approval as to the benefits derived from such savings and loan associations. Mr. C. J. Walker, secretary of the A. W. Shaw Company, has said, "If our savings and loan association had no other advantages from a management viewpoint than to eliminate the nuisance of money advances

to employees on salary to be earned, it would be well worth while." And it has done that very thing. "Not since January, 1915, when the A. W. Shaw Club Savings and Loan Association was started, has there been a single advance payment of salary."

The by-laws of a savings and loan association which has stood the test of time, that of Strawbridge and Clothier in Philadelphia, are as follows:-

SAVING FUND OF STRAWBRIDGE & CLOTHIER

Any employee of Strawbridge & Clothier may become a shareholder after conforming to the regulations of the Board of Directors of the association, and paying a fee of 15 cents to help defray the expenses.

Shareholders leaving the employ of the company do not necessarily cease to be members of the association until the end of the fiscal year.

The association is administered by the following officers: president, vice-president, secretary, treasurer, and nine directors. Treasurer and secretary are appointed by the Board of Directors, but the board and the other officers are elected annually by the employees.

For each share subscribed to, an employee pays 25 cents per week. No person may hold more than forty shares, nor can anyone transfer his shares to anyone else. At meetings of the association shareholders are entitled to but one vote, irrespective of the number of shares they possess, and no voting by proxy is allowed.

The Board of Directors of the association may, at such times and in such manner as they determine receive from shareholders deposits to the amount of $10, or a multiple thereof, not exceeding $250, and allow such interest thereon as they may be able to obtain from reinvestment.

Withdrawals can be made only at the expiration of a whole number of months from the date of deposit, after ten days' written notice. Interest is allowed for

fractional parts of a year, except when depositors leave the company's employ.

Whenever the sum in the treasury exceeds $100, it is invested by the Board of Directors. Any shareholder may obtain a loan for a period of not less than one month, and for a sum not exceeding nine-tenths of the amount paid in. A note is given the treasurer, with interest of 6 per cent. A charge of 10 cents is made for each loan.

Shareholders may withdraw at any time, after one week's notice to the secretary. The amount paid in, less fines and charges., is refunded without profits to the withdrawer.

In case of death of the shareholders, the amount paid in, less losses, fines or loans, may be paid to the heirs, executors or administrators immediately.

Dues are payable before 9 a.m. on each Saturday, and are subject to fine unless paid promptly. Fines may be charged at the rate of 1 cent per week for each share, and in case of arrears for four weeks, the shares are considered as withdrawn.

A series is opened on the 15th of May each year, and the books held open for subscriptions for one month.

At the termination of a series, the funds on hand after liabilities are paid, shall be devided prorata among the shareholders who continue until the close of the year.

A two-thirds vote of the members is finally required to effect a change in the rules of the association.

Fidelity Mutual Savings Association

The Fidelity Mutual Savings Association is open to all employees of the Fidelity Trust Company, Fidelity Savings Trust Company, or Fidelity Safe Deposit Company, of Kansas City, Missouri. It was established on October 1, 1912. Six months' service is required to join.

Shares are issued to members, the maximum being five. Three dollars a month are paid on each share by the subscriber. Certificates are not assignable or transferable.

The Association is managed by three trustees,

selected by the members. The trustees invest the funds of the association and keep all records. Uninvested funds are deposited in the company.

On the first business day after June 30, and December 31, in any year, any member may surrender one or more of the certificates held, and receives the full principal endorsed on the respective certificates, less a prorata proportion of all losses sustained by the association, if any. The members so surrendering receive the following proportions of the interest and the bonus paid by the company:

None, if surrender is made within one year from the issuance of the certificate.

One-fourth, if surrender is made after one year. One-half, after two years. Three-fourths, after three year. All, after four years.

On the death of a member, the full value of his certificates, less losses, is paid immediately to his legal representatives.

A member failing to make his monthly payment forfeits his shares, and is paid the withdrawal value. A member leaving the service of the company receives the principal of his certificates, and in the discretion of the trustees, interest and bonus also, but not more than will make the total income received on the certificates equal to 7 per cent simple interest for the time since their issuance.

The investments of the association are valued by the trustees from time to time, and any depreciation is borne by the members in proportion to the total amounts of their certificates.

When a deposit seems too large to the trustees, they may ask the member to withdraw.

A majority vote of the members suffices to amend the rules.

Equitable Life Assurance Society, New York City

The Equitable Credit Union has been in existence since January, 1916. It was organized by the employees

of the Equitable Life Assurance Society to promote thrift. On December 31, 1921 there were one thousand and forty-four members.

Shares of the par value of $5 are issued. These may be paid for in instalments and are intended to be in the nature of a permanent investment. The Credit Union also receives such sums as its members may wish to leave on deposit, thereby affording an opportunity to the individual member to create a fund for vacation or for the purpose of meeting premiums, taxes, etc.

Loans are granted to its members by the Credit Union provided the purpose is approved by the Credit Committee and that the endorsers offered are satisfactory.

On December 31, 1921 the total assets of this Credit Union amounted to over $56,000 of which $30,498.41 represent shares held by members and $21,660.46 represent deposits of members.

Pelzer Manufacturing Company

The Pelzer Manufacturing Company of Pelzer, South Carolina has organized for the benefit of employees a savings bank under states charter, in which employees have deposited nearly $400,000, and on which they receive interest quarterly.

Certain other types of savings funds included in this group because they exist as separate organizations may be more briefly discussed. Two companies, the Gorham Manufacturing Company of Providence, and the Kaynee Company of Cleveland have set up miniature savings banks within their plants to receive deposits of employees. The Crossett Lumber Company of Crossett, Alabama, has formed an "Employees' Investment Company" which puts employees savings into "carefully selected enterprises controlled by the Crossett Company." The employees' clubs of two large banks, the Hibernia Trust Company of New Orleans and the Guaranty Trust of New York, have instituted thrift departments where employees can deposit from $1 to $1000. Securities are bought with the deposits and returns go to depositors.

Type 3. Company an Agent for Outside Bank

Under the third type of plan, employees' savings are deposited in an existing savings institution.

A few firms have made it a practice to encourage thrift among their employees by starting or adding to their savings accounts under certain conditions. The Rogers, Peet Company of New York, tries to stimulate saving among its younger employees by duplicating twice a year the amount saved by any boy under twenty-one to a maximum of $200. The Washburn-Crosby Company gives each employee $25 to start a savings account at the end of a year's service and at the end of the following year half the increase in the account, but not more than $25. Hibbard, Spencer, Bartlett and Company of Chicago pay a service bonus of from 2 to 8 per cent a year according to length of service, half in cash and half into any savings bank designated by the employee.

Other firms merely act as agents in collecting such amounts as the employee may wish to save and forwarding it to the bank of his choice. They act on the assumption that it may not be convenient for the workman to reach the bank when it is open, and also that it may be easier to save by means of the regular weekly deductions from pay that are possible under this method than when a fresh effort is necessary with every deposit. Some of the large firms handling savings in this way are the New York Telephone Company, the Eastman Kodak Company and the Eastern Manufacturing Company of Bangor, Maine. This last concern pays a special bonus on all such savings, adding 1 ½ per cent annually to the 3 ½ per cent paid by the bank.

Under the name of the "Worcester plan," this method of encouraging employees' savings is in operation in several plants in that city. The idea originated with Joseph P. Tinsley, general manager of the Crompton and Knowles Loom Works, and Mr. Tinsley thus describes the operation of the plan in his own factory:

That it is desirable to encourage the working man and

woman in industry to save, is beyond argument.

That it is equally desirable to have the savings of working people give a return in earnings consistent with absolute safety, and at the same time build up the working capital of the country, is also beyond argument.

In connection with industrial savings systems, three questions naturally arise:

1. Will the workingman support a savings system that can be explained to him, and thoroughly understood by him?
2. Is there such a plan?
3. What is necessary for the successful inauguration and maintenance of an industrial savings system?

The success of this plan during the past year will be given later in brief detail, and warrants our answering the three questions previously raised.

1. The workingman *will* support a savings system that can be explained to him, and thoroughly understood by him.
2. We think we have such a plan operating.
3. The principal conditions necessary for the successful inauguration and maintenance of an industrial savings system are four in number.

a. The system itself must be simple, flexible and easily understandable.

b. The management must energetically support the savings idea and show it.

c. The foremen must be thorough believers in it, and do a great deal of the initial work that is necessary to get the plan started among the men.

d. The organization for introducing it to the men throughout the shop must be enthusiastically in favor of the savings idea itself and the "plan," and must consist of such elements as represent the various nationalities and classes of workmen in the plant.

Of the four conditions named above, which I consider necessary for the success of any plan of this sort, the attitude of the management, the foremen, and the organization of the shop committee are most important. The attitude of the management is most consequential, and I do not believe that any thrift plan will work successfully, at least for very long, unless the men feel that the management is vitally interested in the success of the plan and realize fully the views of the management on the subject.

The Worcester plan we think is exceedingly simple, flexible and understandable. It consists essentially in having the men sign cards, authorizing the pay office to deduct regularly so much per week from their pay envelopes. On this card, the employee designates not only the amount he wishes deducted each week, but also the bank where he desires to have his account opened.

At the Crompton & Knowles Loom Works campaigns for encouraging the starting of bank accounts among the men are conducted every three to six months and last a couple of days at a time. This method we have found to be much superior to that of simply leaving the system open continuously. When a definite campaign is staged, the idea is emphasized all over the plant. Enthusiasm is worked up and we have found, by making comparisons between plants that have campaigns and those that do not, that there is a marked difference in the number of supporters of the savings plans and also the enthusiasm regarding it.

After a campaign, the cards are sorted according to the banks selected. The banks are then notified to send representatives to the plant, where the men are signed up in accordance with the rules of the bank.

After the initial deposit goes to the bank, pass books are made out which remain in the possession of the pay master's office at the plant, being taken to the bank once a week to have the weekly deposits entered therein. A slip is put in the pay envelopes each week stating that, in accordance with the workmen's authorization, a certain amount is deducted from his pay of that week. On another line is also stated his balance

to date in the bank. The second figure constantly grows and is, we believe, a stimulus to saving.

The men know that the money is taken out of their pay envelopes on Saturday and on Monday it goes to the banks of the city. The employer sends weekly to the bank, as agent for the men, a check totalling the amount designated by the men, for that bank. Accompanying the check is a list of the men's names and amounts and from this list the entries are made at the bank. These entries in the bank books are also checked at the plant when the books are returned. The employer assumes responsibility for errors in the lists sent to the banks. The books are back at the plant in a day and an employee may see his book at any time.

The plan is flexible. If a man wishes to increase his deposit, he simply tells his foreman, who advises the payroll office, and the change is accordingly made. If he wants to reduce the amounts, the same simple rule is followed. If he wants to draw a little out for an emergency, he signs an order, the pay master gives him the money, and he is not even obliged to go to the bank.

If he leaves our employ, we do not give him the money, but simply hand his bank book to him, in which we insert a statement that he has been started on the road to saving and we express the hope that, no matter where he goes, he will keep his bank account, and that, thereafter, all that will be necessary for him to continue the bank account, will be to go to the bank with his book, whenever the bank is open and make whatever deposits he desires.

In regard to the second condition necessary for the success of the plan, namely, that the management be energetically behind the savings idea, would say that this must be made perfectly clear to the employees. We appealed directly to the men by putting a letter in their pay envelopes, over the general manager's signature, emphasizing the importance and necessity of thrift, and urging their support of the thrift plan which a committee

of foremen and workmen had prepared and were about to submit.

The third condition in regard to getting the foremen interested is of unusual importance because the men, being naturally conservative, are sure to ask questions regarding the innovation. If the foreman is well posted on the features of the plan and can answer questions satisfactorily and in a spirit that shows he believes in it, the workman is almost bound to feel warranted in starting a savings account. The general manager, at his regular meetings with his foremen, spoke of the plan at intervals several weeks before it was actually started and when the campaign was begun the foremen, as a rule, believed it was an excellent move, particularly for the future welfare of the men themselves.

In regard to the fourth condition, namely, the organization for introducing it into the plant, would say that this is, of course, something that would vary depending upon the size of the plant, the nature of their organization, and the methods that are usually followed in the various plants for conducting campaigns among the men. Most plants have committees of one sort or another that can undertake this work, augmented by such special committees as the occasion demands. For instance, it is highly desirable that a special committee be appointed, consisting of representatives of the principal foreign-speaking peoples in each particular plant. These men should be called together a sufficient number of times to properly instruct them as to the plan in detail and get their support. This is of vital consequence in reaching this portion of any factory's employees for the reason that English, as written, is not understood by a large number and, therefore, the direct appeal of the management, previously referred to, may not be understood. Even the foremen's explanations in English may not be clearly seen, so, if the matter could be explained to the foreign-speaking people in their own tongue by their own people, who understood it thoroughly and

appreciated it, the response is much more likely to be favorable, than otherwise.

Now, as to the results:

In the plant, with which the writer is connected, after three campaigns held at intervals of about three months, between 70 per cent and 75 per cent of the entire force have become regular bank depositors. The plan has recently been extended to other large plants in the city, but these plants have not as yet had an opportunity to exert the fullest measure of effort, nor has the response been as favorable as is expected later. Some of the plants, after opening the plan with a campaign, have left same open without stimulating further large numbers of subscriptions by additional campaigns. These plants are not making as good progress as two of the larger plants who are using the campaign method.

The tabulated results of the system to date are as follows in seven plants in Worcester:

DATA REFERENCE, WORCESTER (MASS.) SAVINGS PLAN

Plant	Date Starting	Number of Campaigns	No. of Subscribers (active)	Per cent of Force	No. Depositors dropping out	Avg. per man per week	No. depositors who have increased original deposits
A.	Nov. 1919	3-approx. every 3 mo.	2210	70-75	52	$2.81	341
B.	Mar. 1920	2-approx. every 3 mo.	1640	29	50	4.06	300
C.	Jul. 1920	Always open	538	14	9	2.50	13
D.	May 1920	Always open	179	17	23	1.51	22
E.	Feb. 1920	Always open	160	8	very few	2.66	6
F.	Mar. 1920	2-approx. every 6 mo.	70	10	4	2.79	9
G.	May 1920	Always open	64	23	12	1.65	3

In connection with the experience as represented in this table covering several plants, it will be seen that the

plan gives every indication of being continuously successful. It will be noted that of the number of subscribers those that drop the plan are few, indicating that once a man is brought to a realization of the value of saving he is not easily diverted from the thrift habit. Of the upwards of five thousand subcribers in Worcester only one hundred and fifty, or approximately 3 per cent, have dropped out, for one reason or another. Of course, this does not take into consideration those originally subscribing, who have left the companies' employ. It is impossible to find out exactly how many of these retain the savings practice. In the number of subscribers reported in the preceding table, no account is, therefore, taken of these.

The last column of the table, namely, the number of increases is especially significant as indicating even more strongly than the column showing the small percentages dropping out, that the men appreciate the opportunity of saving. In Plant A, three hundred and forty-one, or upwards of 16 per cent, have voluntarily increased the amount of their weekly deposits. In Plant B, upwards of 20 per cent have voluntarily increased their weekly deposits. In another connection, too, these figures are significant. It was thought at first that the employees might feel, if employers knew what their employees were saving, that this might have an effect on future wages, on steady employment, etc. This argument was met by emphasizing to the men that, in these days, employers prefer the thrifty employee and that, instead of a savings account working to the disadvantage of an employee, it would much more likely work the other way. The voluntary increases of large numbers of employees after the plan had once been established, would seem to prove that there was no feeling on their part that information as to their savings would be improperly used by employers.

The question may be asked as to whether or not foreign-born employees subscribe freely to a savings

system of this kind. The experience of Plant A is, of course, well known to the writer and we find that as a general rule, these people support the plan better than do the English speaking. Inquiry has been made as to the experience of the other concerns in the same direction and they report, quite generally, that while the foreign-born seem a little hesitant at first, after a few of their countrymen take accounts and the value of saving in this manner is demonstrated to them, the others become very easily interested and once interested they are very glad to remain continuous subscribers.

In general, we think that the Worcester savings plan has had a good start. We are well satisfied with the system of having employees save through the local savings banks. We believe, too, that the workmen are thoroughly satisfied with this method. It has not been necessary in inaugurating this system for the manufacturers to offer any bonus or additional interest to the men beyond the regular rate of interest given by the banks. The manufacturers, of course, have the clerical expense of looking after the various accounts, but, realizing the value of thrift to their men, have gladly undertaken this slight expense. The savings banks do not take care of any of the clerical expense incident to the work at the plants themselves.

In conclusion, it would seem to the writer that the savings banks in any community should get together and, operating through a joint committee, try to interest managers of plants in their locality. Preferably this could be done by a man who could be employed especially for the purpose. Obviously, it is highly desirable to have one approved method in any section for stimulating saving. One plan would get better advertising, would be better known generally, and therefore, much more effective as to results accomplished than if a number of methods were followed in the various shops. If the interest of employers is obtained and that interest manifested clearly to the employees, and the organization of

plant foremen and shop committees thoroughly imbued with the importance of saving and the desirability of a simple savings plan for the employees, there would seem to be no question as to the excellent results to be accomplished.

It is well worth the effort, not only for the welfare of the employees themselves and their families but through the process there are developed better citizens of the community and of the nation.

The workings of the plan during the industrial depression which began in the latter half of 1920-21, are described as follows:-

(a) Relation of Withdrawals to Deposits

This is of vital importance in determining the true value of any savings plan. Along this line it is most interesting to note that at no time has the amount of withdrawals equalled the amount of deposits, and in most cases has not amounted to 50 per cent. Even during Christmas week the amount withdrawn was not equal to the amount deposited.

(b) Comparison of Accounts of Men Laid off with Those of Men Retained

We would naturally expect that the men laid off would not keep up their accounts and the figures prove this. The withdrawals of the men who left the company's employ, either through resignation or reduction of forces incident to business depression, showed that 88 per cent of their deposits had been withdrawn during this period, while only 35.5 per cent of the amount deposited by those still with the company was withdrawn. A study of those who left showed that 49 per cent had closed their accounts, 43 per cent had withdrawn a large amount of their savings, while 8 per cent had left their accounts intact.

(c) Relation of Length of Service to Savings

Believing that it would be interesting to know the class of men who were saving, study was made to deter-

mine what relation the length of service had to saving, and it was found that the "floaters" or those who, seemingly, did not work long at any job, did not save so well as the more desirable, or longer service, men. This is shown by the fact that, while in October, 1920, 45.6 per cent of the savers were of two years' service or more, in January, 1921, this percentage had increased to 58 per cent, while the savings among the six month men or less had dropped from 13.7 per cent to 7 per cent.

(d) Percentage of Force Saving

Another salient fact is that the percentage of the force saving did not vary during the three months more than 3½ per cent either way from an average of 62 per cent, which proved to the workmen that the fact that they had money in the bank did not influence the management to take any unfair advantage of them by laying off these men. In fact, the management met this argument when the plan was originated, by stating that they considered an employee who could save and was saving more desirable than one who was not.

(e) Average Deposit per Saver

The average deposit per saver has varied very little, which shows that, although many of these men were working reduced hours, they did not give up saving or decrease the amount of their deposits during that period.

(f) Attitude of Employees

From talking with employees who are taking advantage of this opportunity for saving, unanimous appreciation of the plan was found, many employees going so far as to say that they consider it the best thing the concern has done for the employees, although many other welfare and service activities are carried on by the company. Many employees stated that their only regret was that they had not specified larger amounts for weekly deposit during the good times, but that they

considered themselves fortunate to have been able to take advantage of the plan at all.

(g) Necessity or Value of Thrift as Shown by Dull Period

The attitude above related of the employees themselves furnishes the most satisfactory proof that some form of promoting thrift is of the utmost importance and value and that the best method to pursue in the furtherance of thrift among industrial workers is a plan whereby voluntary saving is systematized and made easy and simple for the employee. The value of such a system is demonstrated by the amounts that the employees of at least one manufacturing plant have saved.

After careful observation of the progress of the plan during the past year, when both favorable and unsatisfactory business conditions have prevailed, the company is convinced that it is thoroughly efficient and practical and, because of its simplicity, satisfactory alike to employer and employee.

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY

This company has for many years enabled employees to store up money through their giving instructions to deduct money from their wages each week and deposit same for them in one of the local savings banks. About 10 per cent of the employees usually are saving under this particular plan. The amount saved ranges from 25 cents up to $10 a week with an occasional amount under special circumstances in advance of the higher sum.

The company aided one of the other local savings banks in establishing bank accounts through securing a unique style of bank which the employee was to keep at home, use for small change and then bring it to the bank to be unlocked and deposited to his account. Some of the employees who do not care for the more direct participation by this company in their personal affairs, which occurs when the money is deducted from their

wages and deposited in the bank for them, have taken advantage of this plan. Stromberg employees participated to a large extent in the various government loans and Thrift Stamp campaigns but interest in the Thrift Stamp campaigns fell off every generally in 1920 and in 1921 only one or two cared to take advantage of the government issues.

ATLANTIC TERRA COTTA COMPANY, PLANT 2, PERTH AMBOY, N.J.

Goverment Stamp Saving Plan

All of the two hundred and fifty employees of this company may participate in the government stamp saving plan which was established November, 1920.

An amount designated by the employee is taken from his pay envelope weekly, with which is purchased government stamps for him. Stamps are kept on cards furnished by the government and the participant is paid off in stamps purchased and cash balance, on his demand in writing.

Some employees accumulate sufficient stamps which they have registered at the United States Post Office, and which are convertible at any time in cash and interest accrued. Stamps may be cashed in at any time. About $60 is saved weekly by this plan.

Some employees withdraw suddenly and want cash in place of stamps which may cause some inconvenience and extra bookkeeping.

BROOKLYN DAILY EAGLE, BROOKLYN, NEW YORK

The savings bank thrift plan of the Brooklyn Daily Eagle employees, was the result of solicitation by a local savings bank through the Eagle Welfare Society.

The employee fills out an application blank and states how much per week he wants to save. The bank issues to each one a number and a pass book, which is kept at the bank. Each week the company cashier deducts the amount from the pay envelope, check for the total amount is drawn to the order of Brooklyn Savings Bank

in exchange for the cash each week and sent to the bank with a duplicate list, giving name and number and amount that goes to make up the amount of check. The bank then credits the individual accounts with the respective amount. The company gets a duplicate receipt for the total amount deposited each week. There are no book records kept by the company.

In January, 1921, forty-four of the six hundred and fifty employees were saving a total of $170 per week.

Of the nineteen hundred and eighty employees of the Vermont Marble Company, one hundred and forty have joined the company's thrift plan by notifying the pay department to deduct a stated amount from their salaries, which the company deposits at the end of the month in a local bank, to the employee's credit.

THRIFT PLANS OPERATED BY OR WITH SAVINGS BANKS

The question of operating a thrift system in conjunction with a savings bank is the subject of a study by the Secretary of the Savings Bank Section of the American Bankers Association.[1]

The report makes the following analysis of the four types of plans by means of which employers cooperate with savings banks:

The industrial savings systems which operate in conjunction with the banks may be classified according to general characteristics as follows:

1. The operation of a branch bank in the office of the employer;

2. Sending a teller or agent of the bank into the plant to canvass for accounts and deposits;

3. Deduction on payroll of stated deposits which are forwarded by the employer to the bank, all other transactions being direct with the bank;

[1] By Lee Day Woodworth, Industrial Savings Banking. Journal of American Bankers Association. September, 1920.

4. The vending of stamps or certificates which will be credited at the bank as deposits.

Each of these plans provides for the care and management of savings funds along the most approved lines, under the pass book system and with the usual form of rules and regulations which were first developed by the mutual savings banks of the east and which have generally been adopted by commercial banks and trust companies when they enter the field of savings banking.

Also, each of the plans is in no sense experimental, now being in successful operation in various plants, but with varying success. Each will be described in some detail.

None of these plans is to be considered as replacing or obviating the need for any of the various general club or savings plans which have seasonal,[1] business[2] or sentimental[3] appeals which encourage thrift and saving. Whether or not special company fund plans should be continued independently of the bank systems herein described must be determined by the facts in each case, although they usually include paternalistic features which must be condemned on principle.[4]

1. Branch Banks

The establishment of a branch bank or office of a bank within the yard of a plant, or even in the paymaster's office, is undoubtedly a desirable method where warranted by the amount of business.

A New Orleans bank maintains a branch in a bank building which is erected within the yard of a shipbuilding company. Although a success in this case, the plan has the objection that employees do not have full freedom of choice as to the bank with which they will deposit and prejudice may prevent some from availing themselves of such facilities and thereby not becoming savings depositors.

[1] Christmas, vacation, etc.
[2] Life insurance, fire insurance, family expenses, stock purchase, etc.
[3] Especially the war loans—and War Savings Stamps.
[4] *See* Why Men Strike, by Samuel Crowther.

A Worcester bank has opened a branch banking office at the gate of a large plant. It receives deposits for accounts which are kept either in the branch or in the main institution and will only pay withdrawal checks on accounts which are kept in the branch.

In other cases a banking counter is maintained in the paymaster's office and tellers are at the desk to receive deposits on all pay days.

The legal restrictions on branch banking in the United States will prevent a uniform, or even extensive, reliance upon branch banks as collectors of industrial savings deposits.

2. Personal Solicitation

A New England bank adopted the plan of sending a bank officer into the plant on pay days both to open accounts and to receive deposits.

This method has the advantage of making the banking operation entirely independent of and unknown to the employer, but it appears that the overhead expense is too great to allow of the plan being made self-supporting for the bank.

We are advised that a large proportion of employees will deposit under such a plan, but the average deposit is too small to warrant the use of a bank official for the work,—and there may be some difficulty in distinguishing such solicitation from a legal inhibition of branch banking.

But the idea of personal solicitation cannot be briefly dismissed on this ground of expense if banks are to perform their natural and alloted function of promoting saving and for serving as the guardians of thrift! Personal solicitation is the only means whereby a large proportion of industrial workers can be reached.

It may be regarded as the *duty* of savings banks to reach to the persons of both savers and non-savers. If the other systems described herein do not actively encourage individual thrift, it behooves the banks either to

develop their own means of contact or to employ a selling organization which can carry the message with some profit for its initiative.

The present system of banking hours, which are not even reasonably convenient for the great mass of wage-earners—and a not infrequent opinion that savings banks (especially of the mutual type) are not anxious for more deposits—are among our reasons for suggesting the present need for both introspective and constructive study of the problems of savings banking.

The plans of payroll deduction or sale of certificates or stamps to be next described may offer the solution of this problem in popular banking, but if the obvious defects in each are not overcome (as tested by results) it may yet be necessary to devise a practical method for the bank going direct to the potential saver,—*i.e.*, adopting modern salesmanship.

3. Payroll Deduction

It appears that the systems of savings by industrial workers which are operated through payroll deduction upon the employee's order are in the majority as to number of systems and also probably as to the amount of savings deposited.

Two objections raised to any plan depending upon payroll deduction are, first, that it enables the employer to know the business affairs of the employee and may enable the employer to learn both the amount of current deposits and the total in the bank; second, that it savors of paternalism and may in fact be merged with welfare and paternalistic activities by the employer.

We must admit that these objections have weight. Thus, after six months of experience with a payroll deduction system (in competition with a partial payment sale of 10 per cent stock) a service manager writes: "A great many employees resent this effort on the ground that it interferes too much with the execution of the individual's personal judgment and investment ability."

On the other hand, General Manager Tinsley of Crompton & Knowles writes: "In many concerns the plan was started as a result of request on the part of employees. As to our own experience, would advise that it has only been favorable. We have had cases where our employees have come to us and wanted us to accept several hundred dollars' worth of Liberty Bonds. We have had any number of cases where men have voluntarily increased the amount of their deposits weekly. In a word, it has seemed to us to indicate that the men have confidence in the company and in the plan. To that extent, it seems to me, it is an excellent thing for industry in general, in that it seems to develop a greater feeling of confidence between the men and the management. This has been particularly gratifying because when the plan was first started it was thought that, perhaps, some men might hesitate about subcribing to the plan on the grounds that the company might keep track of what their savings were and might use this information in connection with their rates of pay. We have seen no evidence of any such suspicion. In fact, as indicated above, the opposite has been true."

It therefore appears that these objections indicate things to be avoided in the planning and operation of the industrial savings system and the need for overcoming any suspicions on the part of ignorant employees, rather than to condemn in advance such a simple and efficient method of securing systematic savings deposits.

This plan works automatically as soon as placed in operation by the written order of the employee. It avoids the possibility, or even probability, that the calls at the bank will not be made as provided in plan "1," or that excuses will be made for not keeping up the full amount contemplated in plan "2." It involves some extra work for the employer, but that is small in comparison with the benefits achieved.

Various plans for industrial savings by means of payroll deduction have been devised. They appear to in-

crease in complexity somewhat in proportion to the size of the plant. We will, therefore, indicate a series of plans which begin with one which seems to be ample for a small plant and which receives various refinements as the employer's accounting system becomes elaborated.

All these suggestions will be based upon plans in actual operation and we will note such variations as they come to our attention.

Deduction System A

The plan which is most simple and yet which may be deemed adequate in some cases includes the following provisions:

1. *Employer's Announcement.* A simple and perhaps too simple, although ordinarily adequate, system is that of the Vermont Marble Company, which on two occasions offered to make savings deductions for those who presented authorization within the following two weeks. The announcement contained a few well-phrased arguments for thrift and saving and this offer:

> We will deposit the weekly saving in a savings bank to your credit:—to your present account if you have one and if not to a new account to be started. In either case you keep the pass book.

2. *Employee's Authorization.* No payroll deduction should be made until after a signed authorization has been received from the employee. As all essential details as to the management of the money should be contained in the employer's announcement so that it may be a complete contract between all parties concerned, the authorization should be very simple. The authorization should also avoid cold, legal phraseology. A variety of forms will be found below. That by the Vermont Marble Company is as follows:

> I wish to save ($) by plan No. 2[1]. Please deposit that amount weekly to my account in the (name of bank). I direct you to take this amount from my weekly allowance for that purpose.

[1] Plan No. 1 was for installment purchase of United States bonds at present market prices, No. 2 for savings bank deposits, No. 3 for War Savings Stamps purchases. At time of our report the numbers of savers under each were respectively 35, 188 and 1.

3. *Employee's Notice.* The amount deducted should be noted on the pay envelopes or by a suitable slip enclosed therein.

This enclosure for the pay envelope may take the the form of a certificate of deposit. In a plan now being developed in Cleveland the bank issues these certificates in denominations of $2, $5 and $10, and interest bearing. The employer buys enough suitable certificates each week to fill its deduction orders. The certificates are non-negotiable and cashable only at the bank, the bank having already been supplied with the employee's signature card.

Deduction System B

A system which appears to be adequate for plants of any size, which has all legal points adequately covered, even under the strict laws and practice of New York State, and which (with small variations) is in successful operation by the Eastman Kodak Company, Crompton & Knowles Loom Works, American Steel and Wire Company, U. S. Envelope Company, Solvay Process Company (Syracuse plant), and many others, merely elaborates the above "Deduction System A."

1. *Employees' Announcement.* A circular entitled "A Plan to Encourage Saving Among Kodak Park Employees, Eastman Kodak Company," reads:

> Employees who wish to do so may have a certain sum weekly set aside from their pay envelope, or they may pay to the cashier at the payroll department window, during the noon hour, a certain sum weekly to be deposited in the Rochester Savings Bank. A receipt will be given the employee each time such an amount is set aside or paid in and every six months a statement will be furnished from the bank to each employee, showing the amount on deposit.
>
> The company, acting as agent for the employee, will make no charge for service rendered and all money received from the employees will be regularly deposited in the Rochester Savings Bank in the name of the individual employee, will draw interest from the first of each month, the present rate being 4 per cent per annum, and will be subject to the rules of that institution.

This money, when deposited in the bank in the name of the employee who authorizes its deposit, cannot be withdrawn by anyone but him or her personally, or on his or her written order.

Employees wishing to do so may make arrangements with the cashier at the payroll department window and receive all or part of their deposits at any time. It is, of course, expected that this will be done only when absolutely necessary.

All employees who wish to have deposits made for them should sign and leave with the cashier at the payroll department window the attached form, stating the amount which they wish set aside weekly for this purpose, as the object is to encourage the saving of a fixed amount weekly.

The pass books will be retained by the payroll department and sent to the bank regularly with the deposits. Employees wishing to obtain their pass books should give a week's notice, as there are times when the pass books will necessarily be in use at the bank. Employees leaving the employ of the company will, of course, receive their pass books at the termination of their service

The bank will open but one account with an individual so that employees now having accounts there should leave their pass books with the cashier at the payroll department window if they wish to avail themselves of the advantages of this plan.

Twenty-five cents or more per week from regular wages and all or any part of wage dividend will be received for this purpose.

The money will be carefully handled and an accurate record kept by the payroll department, who will see that same is properly credited and the pass books safely kept in the vault.

The company well understands that employees would wish to have such matters considered as of a strictly confidential nature and all may rest assured that they will be so treated. The information will be strictly confined to the few whose duty it will be to see that the transactions are properly made.

It is hoped that this plan will result in a good many of our employees having a permanent savings account which will grow from month to month and year to year until it becomes a substantial sum.

Thrift does not mean a pinchy miserliness or the hardship of great self-denial. It means a lessening of extravagance, the cutting off of useless expenditures, the cultivation of the saving habit and preparation in time of prosperity for the inevitable hour of need.

2. *Employee's Authorization.* The signature blank is headed, "Authority to Make Deposit in Savings Bank," and may read as follows:

Please lay aside from my pay envelope each week until further notice ..... dollars and deposit same in my name in the Rochester Savings Bank, in accordance with circular entitled "A Plan to Encourage Savings Among Kodak Park Employees."

And another form reads:

Please open for me a savings account in the local bank designated below, and withhold each week from my wages for deposit therein, subject to the rules of the bank and in accordance with the plan as outlined and announced by the company, November 8, 1919, the sum of .....dollars.

The applicant also signs the bank's signature card. Form No. 4, printed on adhesive paper, was especially designed for this purpose.

3. *Office Record.* The following blank is used for a record of deductions for each employee. (See form No. 1.)

Reg. No.	NAME			R. S. B. Account No.			
WEEKLY DEDUCTION				WEEKLY DEDUCTION			
Begin		Amt.	Discontinued	Begin		Amt.	Discontinued
Authority to Deduct Filed				Signature Filed			
Account Closed				Pass Book Delv'd			

FORM NO. 1—EMPLOYER'S RECORD OF DEDUCTION AUTHORIZATIONS 3" x 5" CARD

4. *Deposit Record.* A blank book is used in which are listed the names of all depositors with their bank book numbers and amounts of weekly *deductions*, with total for the month. (See form No. 2.) A carbon copy of all entries, except the weekly payments, is available for use as the deposit slip. (See form No. 2.)

ORIGINAL

IN ACCOUNT WITH

ROCHESTER SAVINGS BANK

Employee's Deposits

Month of 19

Please use Pencil or Typewriter to give Good Carbon Copy

RETAIN THIS ORIGINAL SEND DUPLICATE WITH DEPOSITS

Bank Book Number	NAME	Employee's Number	Total for Month	WEEKLY PAYMENTS Week Ending	Week Ending	Week Ending	Week Ending	Week Ending

FORM NO. 2—FORM USED FOR RECORD OF PAYROLL DEDUCTIONS. A CARBON COPY OF THE LEFT PORTION, MARKED "DUPLICATE" INSTEAD OF "ORIGINAL," SERVES AS A BANK DEPOSIT SLIP

5. *Employee's Notice.* To give notice of the amount deducted and the pass book balance (the book being in employer's custody), a statement should be enclosed in the pay envelope. The American Steel & Wire Company and the Crompton & Knowles Loom Works, which have systems similar to the one here described, use a blank reproduced as form No. 3.

Name..... Check No.....

There has been deducted from your wages today for deposit in the savings bank $.....

This will make the total balance on deposit in your favor $.....

AMERICAN STEEL & WIRE COMPANY

..... (Date)

FORM NO. 3—FORM TO BE ENCLOSED IN PAY ENVELOPE, TO GIVE NOTICE OF DEDUCTION

6. *Comment.* J. F. Tinsley, general manager of the Crompton & Knowles Loom Works, after describing the operation of this plan (Journal of the American Bankers Association, January, 1920), says:

Besides its simplicity and clearness, there are other advantages to the employee:

1. If at any time a subscriber wants to withdraw some of his savings he merely has to go to the company's cashier, call for his book, be identified, and sign a receipt for the book, which is handed over to him. After making his withdrawal at the bank, the employee returns his bank book to the cashier's office.

2. In case a subscriber leaves the company's employ, the book is given him with his final pay, together with a statement in various languages, advising him to keep the book and to continue making his deposits at the bank weekly.

3. In case of sickness or trouble in the subscriber's family he has the privilege of suspending his deposits for whatever length of time he wishes.

4. At any time he may increase or decrease the amount, by merely notifying his foreman, who, in turn, notifies the payroll department.

5. As it is a straight savings bank proposition, the subscriber's money is safe and the interest fluctuates very little.

It is the plan of the company to reopen this work once in six months to give men who have not formerly subscribed a chance to take advantage of it.

In the Crompton & Knowles plan, the banks send a representative to the plant at a stated time to obtain signatures. Under other plans the signature cards are delivered to the company and by it forwarded. (See form No. 4.)

ROCHESTER SAVINGS BANK

ROCHESTER, N. Y.

Please write *full* name twice in spaces indicated below, giving your residence, and mail this slip at once to the bank.

No._____

NAME_____

NAME_____

RESIDENCE_____

FORM NO. 4—SIGNATURE SLIP, 3" x 5", ON ADHESIVE PAPER, TO BE TRANSMITTED BY EMPLOYEE TO BANK AND PASTED ON CARD AT BANK

Whether or not the pass book shall be left at the bank for credits, retained by the employer to be sent to the bank with each deposit, or held by the employee, is a matter of detail to be settled according to the provisions of law or preferences of the individuals in each case—but banks should usually decline to keep the book and it should remain in the employee's hands if possible.

DEDUCTION SYSTEM C

Simple but interesting variations from the system just described under the heading "Deduction System B"

are found in the well-developed plan of the Goodyear Tire and Rubber Company. We will explain the system in the way that it has been handled by the company in placing it before employees.

The essential details are stated very concisely in the factory organ as follows:

HOW THE THRIFT SAVINGS PLAN WORKS

1. Fill out the blank below. Write plainly.
2. Mail blank to Service Subdivision, Factory Office.
3. Service Subdivision acknowledges receipt of blank with a letter to subscriber.
4. The subscriber takes the letter to the bank he designated and signs up, starting his account there.
5. Bank then sends Service Subdivision account number. This is turned over to payroll department.
6. Deductions from pay begin on the next pay following and continue until the employee designates, in writing, that they shall stop.
7. In each pay envelope there will be a receipt for the amount deducted and deposited for him.
8. Employees are to take these receipts to the bank, at least once a month and be credited for the same in their pass books.
9. Only amounts credited in pass books may be drawn from the bank.

Date..... Account No.....

(Do not fill in the above space.)

THE GOODYEAR TIRE & RUBBER CO.

SERVICE SUBDIVISION

Please deduct from my pay envelope each pay day..... dollars ($.....), to be deposited to my account in the

.....

(Here designate the bank you wish to use.)

Signed .....

(Do not print name. Write plainly.)

Card No.....Dept .....

Address .....

Mail this blank, properly filled in, to the Service Subdivision, Factory Office.

Additional explanation is made by the company as follows:

1. In the event that an employee already has a savings account with the bank he shall so indicate on his deduction application, giving number thereof. The fact that an employee has an account must be substantiated by the Service Subdivision before the deduction application is sent to the payroll department.
2. No funds can be withdrawn except by presentation of pass book to the bank in which the money has been deposited.
3. In the event that an employee wishes to discontinue his deductions he must call at the Service Subdivision of the Personnel Department and fill out blank form provided for that purpose.
4. The Service Subdivision will retain all blanks until official notification has been received from the bank designated that the employee has called at the bank and filled out his signature card, this official notification to show the account number assigned by the bank.
5. Upon receipt of the official notification from the designated bank, the Service Subdivision will deliver to the Payroll Division the original signed application, with the bank's account number attached. Deductions will be made from the next succeeding pay. After each pay period, Treasury Department check with a list in duplicate will be sent to each bank, showing—
   a. Account number.
   b. Individual's name.
   c. Amount of individual deduction.

One list is to be receipted for by the bank and returned, when they will be filed in the payroll department.

Payroll department will insert in each envelope from which an amount has been deducted, a special receipt showing the amount deducted and the bank in which such amount has been deposited. Employees are expected to call at the bank at least once each month with their receipts, when the amounts credited will be entered in the pass book and receipts retained by bank.

The accounting phases are explained in a special bulletin.

4. Savings Certificates

Under this heading we will group those plans for industrial saving which avoid payroll deduction by the use of some form of savings certificate. These plans may or may not involve an agreement for systematic saving, as in some cases they are only intended to facilitate deposits. Such plans are intended to please those who wish to keep from their employer all information as to their personal affairs. They are also more flexible and not so strict in operation as is any plan operated by payroll deduction, *i.e.*, it is easier for the saver to "beg off" from his promise to himself!

Certificate System A

There is in contemplation an industrial system based on the sale of thrift certificates. This plan would operate independently of the employer and without payroll deduction, but as a means for increasing the savings account at the bank.

Whether or not there is a substantial need for such a system remains to be demonstrated.

The locality in which this plan is being developed and tried will furnish a full report to the American Bankers Association in due course and steps will then be taken to avail of that experience.

Certificate System B
("Automatic Receiving Teller Thrift System")

Many plants have installed a slot machine called "The Automatic Receiving Teller," which vends stamps of 1, 5, 10 and 25 cent denominations. Each stamp is numbered and bears the name of the bank which will credit the amount as a deposit.

Folders are supplied by the bank upon which to paste the stamps as obtained from the machine.

The folders may show the name and address of the owner and the bank then refuses to accept the attached stamps for deposit from any other person. The stamps may be initialed to protect the owner in case of loss.

The arguments for this method include the ease with which spare change may be saved, and absolute secrecy from the employer.

These machines have been installed in the Stewart-Warner Speedometer and many other plants.

Certificate System C
(Industrial Banking System, Inc.)

A stamp system operating in the Yale & Towne Manufacturing Co. plant, and elsewhere in New England, is as follows:

1. The employee hands his bank signature card to the employer with the amount of his first deposit.
2. The employer sends the signature card and the

deposit to the bank, whereupon the bank issues a pass book.

The pass book is a special form for which patent has been applied. In front of the blanks for entering deposits, withdrawals and balances, are a series of pages upon which to paste stamps as purchased in blanks numbered serially.

3. The pass book is sent by the bank to the employer for delivery to the depositor.

4. The employer is supplied with special gummed stamps printed in couplets, "original" and "duplicate," serially numbered, showing denomination and name of bank in which deposits are to be made.

5. The employee applies to the employer for a stamp or stamps of any denomination. The employer places the original stamp in the pass book marked for deposit No. 2, or the first vacant place thereafter, and the duplicate stamp of the couplet upon the coupon which bears the corresponding deposit number and which he then detaches.

6. The pass book is returned to the employee and the duplicate coupon is sent to the bank. (In practice the book may be left with the employer.)

7. When the pass book is to be written up by the bank on the regulation form in the back of the coupon book, the original stamps in the coupon book are compared with the duplicates received by the bank. The total can then be entered in the pass book account and the stamps cancelled.

It is claimed for this system that there is full protection against any improper use of the stamps, that the employer is required to do no writing or keep no special accounts with employees, that it does not come within the statutes against branch banking, and that the factory acts as the agent of the depositor only.

An essential feature of this system is the service, which includes personal canvassing among employees to open accounts and sell stamps.

TYPE I. COMPANY SAVINGS FUND

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
General Motors Corp. Employees' Savings and Investment Funds		Company's contribution in common stock of company; employee's contribution mainly in stock of company	May deposit $5 or multiple, up to 10% of salary. Maximum $3000 a year	Equal to employee's deposits	6% guaranteed	On 15 days' notice, Employee forfeits company's contribution (⅓ at end of 1 year, ⅔ at end of 2 years, etc.)	
Sears, Roebuck & Co. July 1, 1916	5 trustees (3 officers or directors; 2 employees)	Company's stock, so far as possible	5% of salary. Maximum $150 a year	5% of its earnings (also used in pension fund)		On demand. 10 years' service (5 for women marrying) required to secure company's contribution, except in death.	3 years' service required for participation
Metropolitan Life Insurance Co. Employee Savings Plan 1900	Board of Trustees appointed by Board of Directors	Discretion of trustees unless instructions are given by Directors of Company	Maximum ordinarily 5% of earnings. Maximum salary $4,000	50% of member's deposits	5% plus interest on forfeitures (1920, 2½%)	Allowed, but must be entire. Company's contribution forfeited unless permanently disabled or honorably discharged.	1 year's service required for participation. To join after withdrawal requires Trustees' permission
Ford Motor Co. Investment Plan Dec. 31, 1919		Company offers $100, $500, and $1,000 investment certificates	At pay-day or 2 days after, $1, $5, or multiples accepted. Maximum ⅓ of salary	None	3% on partial, 6% on fully paid certificates	30 days' notice may be required. Withdrawal allowed on death, or interest on compulsory on leaving company	Payments must be from wages, bonus or interest on company's investments.

TYPE I. COMPANY SAVINGS FUND—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
..... (Name withheld) Cooperative Savings Fund January 1, 1916	Committee of 5, 3 selected by depositors, 2 by company.	Company's preferred stock, or mortgage bonds, first mortgages, or property	Company has right to limit deposits	Annual bonus to foremen, etc. paid into savings fund	Equal to company's dividend rate [1921, 7%]	On demand. Compulsory on leaving company	Company reserves right to determine membership, and to discontinue plan
..... (Name withheld) Paint Manufacturer Middle West Appreciation Fund 1919			5% of annual salary, maximum $150.	5% of annual payroll. Maximum $3,000 rising to 10% at end of 6 years' service		10 years' service required to secure company's contribution	
Hood Rubber Co. Thrift Club. March, 1919	Trustee chosen by company	Used in the business or in preferred stock of company	$1 minimum contribution — any business day. Maximum $150 unless approved by company	None	6%	On demand, 2 days' notice may be required. Advised to purchase stock when account reaches $150	Accounts closed, on leaving, within 60 days of death. Savings deposits exchanged for stock.
Builders' Iron Foundry.			"Regular deposits." Maximum 10% of salary	None	At least 6%; same as company's rate on invested capital		2 years' service and other requirements. Bonds issued when deposits equal $50 or $100.
Edison Co. (Bklyn., N.Y.) Investment Fund. June 20, 1910	Trustees—President, general manager, auditor, treasurer, 2 directors, 2 persons chosen by subscribers		3 to 5% of weekly salary deposited regularly — otherwise minimum $5	10% of initial subscriptions to constitute reserve fund	Fixed by trustees	30 days' notice	Joined with stock purchase plan

TYPE I. COMPANY SAVINGS FUND—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
John B. Stetson Co. Savings Fund 1896			10 cents to $10 weekly or any special bonus received	None	5% on monthly balances	On demand	
..... (Name withheld) Savings Plan			Pay department authorized by employee to deduct stated sum	None		When $50 is accumulated	
Bloedel-Donovan Lumber Mills			May leave money with company	None	6% from date of deposit	On demand	
John Deere Wagon Works Savings Club			May authorize deduction of $1 or more each pay day	None	4% compounded semi-annually	Not until end of 1 year, unless leaving employ of company (30 days' notice), or to buy preferred stock	

TYPE I. COMPANY SAVINGS FUND—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
Westinghouse Electric & Mfg. Co. Employees' Savings Fund				Employees in service 6 months who deposit at least 2% of salary have additional insurance, maximum $1,500 for 15 years' service	4½% compound	On demand, but insurance will be reduced prorata unless deposit has been maintained 5 years. Employee may borrow against deposit	
American Wholesale Corp. July 1, 1920	3 trustees —(1 an employee) elected by directors	May invest or deposit with corporation, at trustees' discretion	Maximum 5% of salary or $200.	5% of net profits. Maximum double employee's deposit	7% compounded quarterly		
Metropolitan Bank of St. Paul, Inc. Saving and Profit-Sharing Plan 1920	5 trustees, 3 directors appointed by president, 2 by employees, elected by subscribers	"Conservative Investments," loans to employees, to extent of their deposits	Semi-monthly payments or deductions from salary. Maximum 10% of salary	10% of bank's net clearings		Loses prorata share of bank's contribution for current year unless withdrawing Dec. 31.	
Butler Bros. Employees' Participation Fund January 1, 1920	3 officers or directors, 2 employees; all chosen by directors of Company	Company stock, "so far as practicable or advisable"	5% of salary deducted. Maximum $250	5% of earnings. Maximum double employees' deposits	5%	Company's contribution secured only after 5 years unless discharged or disabled. (Women marrying, 3 years)	

TYPE I. COMPANY SAVINGS FUND—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
Plimpton Press Savings Bureau			Pledged 10 cents up weekly, collected on pay day by a collector in each dept.	None	4½%	On demand	8% of employees members, Loans up to $100 on proper security
Cleveland Twist Drill Co. Participation Plan. Dec. 14, 1918	Officials of company	Used in business	$10 or multiple thereof given to "designated agent" of Co. Maximum annual salary	"Participating dividend," same rate as stock dividend	6% payable semi-annually	12 months notice may be required. Principal payable at death, dividends may be continued after 25 years' service, as old age pensions	"Note and certificate of participation" given for savings. Limited to executives
National Blank Book Co. Credit System. June 1, 1920		"Loans to company at the risk of the business"	In units of $2 or $5. Maximum $50 month, $600 year, $3,000 total	None	6% first year rising to 10% 5th year Quarterly payments	1 day's notice for $100 or less. 10 days' for over $100	Payments cut off lowest rate of interest
Nunn, Bush & Weldon Shoe Co. Employees' Savings and Profit-Sharing Fund. May, 1917	5 trustees selected by directors, 3 officers and 2 employees	Preferred stock of company "so far as practicable"	5% of salary. Maximum $150 year	Such proportion of ¼ of net earnings as payroll of employee bears to total payroll of Co.	7%	60 days' notice. 10 year's service required to receive company's contribution	
C. L. Kimball Savings Club			Pay to collector day after pay day. Minimum $1 weekly	$100 par value preferred stock for $90 saved			

TYPE I. COMPANY SAVINGS FUND—*Concluded*

Company and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Withdrawals	Remarks
Harris Trust & Savings Bank (Chicago) January 1, 1916	5 trustees, 3 officers and 2 employees, selected by directors	Railroad, public service, municipal, govt. bonds, stocks, "or other securites"	3 years' service required. Maximum contribution 5% of salary. 2% minimum required from eligible employees	5% of net earnings available for dividends	5¼%	Only on leaving bank, death or retirement	Loans may be made against deposits, but bank's contribution not payable while these are outstanding
Russell Spaulding Co. (Binghamton, N.Y.) January 1, 1917			1 year's service required 3% pay deducted weekly	4% of salary of contributors plus $1 for each year of service	6% compounded semi-annually	Every 5 years only	
Commonwealth Edison Co.	"committees"	Must create reserve fund of stock and cash at end of each 5 year period	1 year's service required. 3 or 5% of salary.	(See withdrawals)		At end of 5 years investment with pro-rata share of profits. On leaving, investment plus 6%. On written request, investment plus 4%	
Dutchess Bleachery (Wappinger Falls, N.Y.)	Treasurer elected by Board of Operatives, bonded for $10,000		Depositor pledges weekly sum 25c, 50c, $1, $2, $5, ("except in emergency") Collector on company time in each dept.	Prorata share of interest received paid annually in December		1 week's notice	

TYPE II. INCORPORATED SUBSIDIARY

Company and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Remarks
A. W. Shaw Co. Savings & Loan Assoc. (Chicago) January, 1915			$1 to $20 monthly, payable on semi-monthly payday	Takes surplus over loans paying market rate of interest		Share with maturity value of $12 payable in Dec. Series starts in Dec. and June. Fund also makes loans
Eastman Kodak Co. Savings & Loan Plan January 3, 1921	8 officers of co. 1 employee of each Rochester plant chosen by ballot of employees	Loans to employees to buy homes, of 70% of appraised value. Also $25,000 out of $459,000 assets in short term securities. Second mortgages on employees' homes 15%—20% of purchase price	Installment shares payable $1 per share monthly. Saving shares payable in any amount any time. Income shares payable in full at time of purchase	None	4% on savings and income shares	Value of shares $100. Installment shares mature in 7 years. May draw against saving shares as a savings account. 4% of dividend of income shares payable yearly. Remainder at maturity of shares (5 years)
Miller Lock Co. Savings Fund (Phila.) 1892	Chairman, Sec. and Bd. of Directors. Those of Employees' rep. bd. Treas. elected by Bd.	Used in business of company	May buy 1 to 20 shares at 25 cents a share, weekly. 15 cents entrance fee	None (Money for fund raised from entertainments)	6% guaranteed. (10% in 1919)	Loans to employees from savings fund. Savings period begins Jan. 1 each year and closes just before Christmas.
Kaynee Co. Savings Bank (Cleveland)			In any amount, on any working day	None	5.6% (1.4% quarterly)	Pass book issued to each member

TYPE II. INCORPORATED SUBSIDIARY—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Remarks
Gorham Mfg. Co. Savings Bank (Providence) 1900			Minimum deposit $1	None	4%	Bank book issued to each depositor
Grinnell Co. General Fire Extinguisher Co. Grinnell Savings and Investment Fund. January 1, 1921	Trustees appointed by Bd. of Directors of General Fire Extinguisher Co.	National City Bank of N.Y. depository for fund	May be deducted from pay by order. Maximum 30% of salary		6%	Shares at $1 a month for 5 years. Loans, to 80% of paid-in value of shares,
John B. Stetson Co. Bldg. & Loan Assoc. 1880		1st mortgage loans		Pays dues on shares as long as employee remains with company	6% without premium	
New York Edison Co. Savings & Loan Assoc.						5 types of shares: 1 Installment, $1 monthly; 2 Savings; 3 Income; 4 Prepaid; 5 Juvenile
Library Bureau Employees' Savings Assoc. 1913	Officers elected at annual meeting		10 cents up. $1 least that draws interest	None	6%	
Crossett Lumber Co. Employees' Investment Co. (Crossett, Ala.)	Co. officials aid management without pay	Enterprises controlled by company, "carefully selected"	Invest $500—$2,000 to be paid at 2% monthly	None	15 to 30%	

TYPE II. INCORPORATED SUBSIDIARY—*Continued*

Company, and Date Plan Established	How Administered	How Funds Are Invested	Contribution By Employees	Contribution By Company	Interest Rate	Remarks
Jeffrey Mfg. Co. Savings & Loan Assoc.			Available to any employee buying common stock			Purposes: to invest savings; to save or borrow for a home
Simmonds Mfg. Co. Savings & Loan Assoc. (Fitchburg, Mass.)					6% up to $500. 5% above $500.	Loan rates very high"
Edison Illuminating Co., (Boston) Industrial Credit Union		Under supervision of state banking commissioner	$5 shares; may pay 10c up weekly. Maximum 70 shares	None	5% on shares 4% on savings	Maximum loan $300 except $2,000 on real estate
Joseph & Feiss Co. Savings & Loan Assoc. (Cleveland) 1912			Cashier receives 2-3, payday 2-5	None	6%	Maximum deposit $200
American Can Co. Savings & Loan "Thrift Club" (Toledo) 1917	Officers elected by vote of members	Loans to 90% of member's balance. 12% on loans of $25-50. 8% on loans over $50. Daily balance in local bank at 4%	50c per share paid to financial secy. semi-monthly. Any number of shares		Only 4% if withdrawn before end of club	Loans may be made to outsiders
Guaranty Trust Co. (N.Y.) Thrift Dept. of Guaranty Club		Deposits invested by Thrift committee approved by vice-pres. of co. and pres. of club	Minimum $1, Maximum $1,000 per year	None		30 days' notice required for withdrawals

TYPE III. INVESTED IN OUTSIDE ORGANIZATIONS

Company, and Date Plan Established	Where Invested	Contribution By Employees	Contribution By Company	Remarks
N.Y. Telephone Co. March 1, 1921	Savings Bank	50 cents up weekly from wages. Direct remittance to treasurer. Deposit of overtime, anniversary payments, etc.	None	Acts as employee's agent as long as desired in opening account and forwarding deposits
Crompton & Knowles Loom Works (Worcester, Mass.) November, 1919	Savings Bank	Weekly deductions from wages. Larger deductions on special order	None	Conducts thrift campaign for 2-3 days every 3 or 6 months. Secures pledge cards giving choice of bank. Gives man his bankbook and urges continued saving when he leaves company
Diamond State Fibre Co. ("Diamond State Savings Fund") (Bridgeport, Pa.)	Savings Bank of employees' choice		Duplicates twice yearly amount saved by any boy under 21. Maximum $200	
Eastern Manufacturing Co. (Bangor, Me.)	Brewer Savings Bank	Deductions from wages	1½% interest added to 3½% paid by bank	
Eastman Kodak Co. (Folmer & Schwing Century Camera Div.)	Rochester Savings Bank			Company deposits and gives receipt to employee

TYPE III. INVESTED IN OUTSIDE ORGANIZATIONS—*Concluded*

Company and Date Plan Established	Where Invested	Contribution By Employees	Contribution By Company	Remarks
Hibbard, Spencer, Bartlett & Co.	Savings Bank		Half of service bonus paid to Savings Bank designated by employee	Bonus of 2% after 1 year; 5% for 2 years; 6%, 3 years; 8%, 4 years or over
Norton Co. (Worcester, Mass.) July, 1920	Savings Bank	Weekly deduction from wages		Company acts as agent for bank. Company cashier holds individual books
Rogers Peet Co. (N.Y.C.)	Savings Bank of employees' choice		Duplicates twice yearly amount saved by any boy under 21. Maximum $200	Deposits amount on presentation of bank book
Vermont Marble Co. (Proctor, Vt.) 1918	Savings Bank chosen by employee	Deduction from wages	None	Employee keeps bank book. (See also Eastman Kodak)
Washburn Crosby Co. 1914	Savings Bank		$25 to start savings account at end of 1 year's service. At end of second year, half the increase in the account. Maximum $25	

CHAPTER XII

PROFIT-SHARING

EXTENT OF PROFIT-SHARING[1]

The adoption of profit-sharing in the United States has been a slow process. A survey of such plans made in 1896 shows that, of fifty plans noted at that time, thirty-three had been abandoned permanently, five had been discontinued indefinitely, and only twelve were in actual operation. Another survey made in 1899 showed that a few more companies had adopted plans.

In 1916 the United States Department of Labor made a study and found that sixty companies had profit-sharing plans, more than two-thirds of that number having been in operation less than ten years. Thirty-three of these concerns were manufacturing establishments. Seven of these have since abandoned their plans.

Today there are perhaps less than a hundred real profit-sharing plans in operation but the interest of employers in the subject is a growing one. It is just as well that the development of profit-sharing plans should be slow and cautious for many a plan has been wrecked because of the failure to study American experience and the conditions peculiar to the individual establishment.

This resumé of the more recent plans is intended only to serve as a guide to the executive and to help him determine what type is best suited to his requirements. It should be said here that no plan can be taken over bodily and applied successfully. Modifications must be made to suit the requirements of the establishment in which it is sought to adopt a plan, and those requirements must be given very careful study.

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OBJECTS OF PROFIT-SHARING PLANS

Employers are interested in profit-sharing for various reasons. Some desire to give their employees a real share in the prosperity of their business, others see in profit-sharing plans a way of increasing business and production through the increased personal interest of employees, who have a financial stake in the results of their work.

RESULTS OF PROFIT-SHARING PLANS

The following points are made by concerns which have had success with profit-sharing plans:

1. Stabilizes the work force
2. Prevents industrial disputes
3. Promotes loyalty and goodwill
4. Increases production
5. Improves quality of output
6. Reduces waste of time, materials and machinery
7. Promotes thrift
8. Secures social justice for employees

WHAT IS PROFIT-SHARING?

Analyses of so-called profit-sharing plans often include stock participation plans, bonus systems, cooperative savings systems, and other plans where there is an element of financial aid by the company. These are usually classified as "limited profit-sharing plans." No attempt has been made to make the titles generally inclusive terms.

Stock participation, bonus and savings plans are not properly termed "profit-sharing." The determining characteristic of a true profit-sharing plan is the announced plan of the employer to set aside, or divide *a fixed percentage of the net profits* of the concern, for the account of the employees, *according to some predetermined plan.* The individual efficiency or capacity

of the employee is usually not taken into account; the factor that determines the return to each employee is most commonly his regular salary or earnings.

The Essential Features of a Profit-Sharing Plan

The essential features of a profit-sharing plan as outlined in a study by the United States Department of Labor are:

1. Amount to be distributed varies with and depends upon the net profits of the enterprise or upon the amount of dividends paid to stockholders.
2. Proportion of profits to be distributed is definitely determined in advance.
3. Benefits of the plan extended to at least one-third of the total employed, and including employees in occupations other than clerical or executive.
4. Method of determining individual shares is known at least in a general way, to the participating employees.

The Simple Form of Profit-Sharing

In the plan of R. A. Bartley, Toledo, Ohio a division of profits is made in absolutely equal amounts per employee. This is the simplest form of profit-sharing.

Profit-sharing began in this company in 1904. Up to 1920, $385,000 was paid out to employees as profits, each employee's share being the same. In 1920 the firm incorporated and the force has since been given profit-shares in stock.

DETERMINATION OF THE EMPLOYEES' SHARE OF THE PROFITS

Usual Method a Dividend

The most common method of determining the employee's share of the profits is the declaration of a dividend. For example, the American Light and Tractions Company, which has had a profit-sharing plan in

operation since 1899, declares a semi-annual dividend to employees at a percentage at least equal to that declared on the company's stock for the same period. The wage dividends paid under this plan have ranged from 6 to 10 per cent per annum.

Preference for Older Employees

Ballard and Ballard, of Louisville, Kentucky, have had a profit-sharing plan in operation since 1886. A dividend from 10 to 33⅓ per cent is declared and divided in proportion to wages. Older employees receive a higher percentage.

Regular Stock Dividend Rate Paid to Employees

The Boston Consolidated Gas Company

Under the plan of the Boston Consolidated Gas Company, profit-sharing payments are made to employees at the same rate, on their salaries, as the dividends on the stock of the company. This arrangement has a peculiar and special significance in the case of this particular company. For, under the "Sliding Scale Act" passed by the Massachusetts Legislature in 1906, and under which this company is operating, the rate of dividends on stock is increased 1 per cent for every 5 cent reduction in the price of gas. Thus, any increase in the rate of the profit-sharing payments depends, ultimately, upon reduction in the price of gas, which, in turn, depends upon efficiency and economy in operation. This arrangement gives the employees a very direct incentive to economy, and to "stopping the leaks."

Selection of profit-sharers is made by the directors, quarterly. "Only those employees who have shown regularity, intelligence and energy in the business of the company are included, and the heads of the various departments are instructed to use careful discrimination in their recommendation of profit-sharers."

The management believes that the discrimination

practiced in the selection of profit-sharers "for merit" is a most important part of the plan, since it provides the employee with an inducement to care, effort and efficiency, in the hope that he may be chosen as a profit-sharer. Under this plan, an attempt is made to make the list of profit-sharers a "roll of honor."

The profit-sharing payments are computed on a basis of the salaries or wages paid, for the preceding twelve months. These payments are not made in cash, but are applied toward the purchase of preferred shares of the Massachusetts Gas Company (the holding company). Shares so bought for employees become their absolute property. However, they are not to be sold without the approval of the directors, but it is understood that this approval will always be given, when necessary, in order to enable the employee to meet any emergency.

The total number of employees on June 30, 1920, was thirteen hundred and fifty-seven, of whom eight hundred and thirty-nine were profit-sharers. On June 30, 1920, $97,579.77 was apportioned as the profit-sharing fund for the year, which meant a distribution of sixteen hundred and sixty-eight shares of stock (at then market price). In the fourteen years during which the plan has been in operation, there has been distributed $761,612.

Maximum of 20 Per Cent of Earnings as Profit-Share

The Simplex Wire and Cable Company, Cambridge, Mass.

This company has been operating a profit-sharing plan for many years, providing for the distribution among the employees of a definite percentage of the year's net profits. The amount of money to be divided depends entirely on profits for the year. Each profit-sharer shares in proportion to the wages he receives during the year. Under no condition does the company pay any profit-sharer more than 20 per cent on his wages for the year.

An idea of range of payments to employees can be obtained from the following statement, covering ten years:

Year	Average Wage	Average Profit-Sharing Dividend	Per Cent Dividend
1910	$585.51	61.52	10.51
1911	582.08	54.30	9.33
1912	618.31	61.75	11.40
1913	673.25	86.61	13.57
1914	633.91	64.56	10.19
1915	648.67	48.77	8.26
1916	836.46	129.91	15.53
1917	969.77	144.78	14.93
1918	1,122.62	86.62	7.71
1919	1,203.19	115.71	9.61

HALF OF PROFIT-SHARE PAID IN STOCK; CASH TURNED IN TO BUY STOCK IS DOUBLED

H. A. Marr Grocery Company

The following plan for profit-sharing is the result of about ten years' experience of the H. A. Marr Grocery Company, distributing wholesale grocers at Denver, Colorado. The company is a small one, employing about sixty-five, and their plan is here submitted as an example of profit-sharing in a small concern.

Since this plan is voluntary on the part of the company it reserves the right to determine (through its Board of Directors) all questions in regard to the company's policy in connection therewith.

Powers of the Board of Directors

1. Such directors shall have the power to terminate this plan and to discontinue the payment of cash distributions and the sale of its stock hereunder, or change the basis thereof, or in any respect to modify or discontinue the same, at any time, and without notice.

2. In addition to the powers herein specifically given,

the directors shall have all the powers customarily conferred and enjoyed in such cases, and as may be necessary to the carrying out of the purposes hereof, except such as shall be expressly given to the Board of Trustees to be hereinafter created.

"Profits" Defined

For the purposes of this plan, "profits" are hereby defined as that sum remaining after deducting all expenses of the business for the period, including depreciation, all taxes, 7 per cent interest on capital employed, and all contingent salaries.

"Profits" Divided Between Company and Employees

"Profits" for the profit-sharing period are to be divided between the company and its employees, as follows:

Company.....	75 per cent
Employees.....	25 per cent

The amount apportioned to the employees is to be paid as hereinafter provided.

Basis for Division of the Profits Among Employees

Division of the profits set aside for the employees is to be made on the basis of salary and tenure of employment, and in case contingent salary is paid, the word "salary" is intended to include both regular and contingent salary.

Classification of Employees

For the purposes of distribution, all employees shall be classified according to length of time continuously with the company, as follows:

Class 1, more than four months and less than one year.

Class 2, more than one year and less than two years.

Class 3, more than two years and less than four years.

Class 4, more than four years and less than seven years.

Class 5, more than seven years and less than ten years.

Class 6, more than ten years.

At the time of the initiation of this plan, the period of employment shall include credit for all past service, whether continuous, or not, and employees who left the company for military service during the late war and returned to the company direct from such service shall also have full credit for such war service. After the initiation of such plan, service must be continuous to entitle the employee to credit.

Rate of Distribution

The rate of distribution shall be determined by multiplying the salary of each individual, received during the preceding profit-sharing period by his class number. The aggregate of the results obtained for all employees, divided into the profits to be distributed for the period, will give the rate of distribution.

Amount to be Paid Each Employee

The amount to be paid each employee will be determined by multiplying his salary for the profit-sharing period by his class number, and multiplying this result by the rate determined under previous section. (See "Schedule A." page 71.)

No employee shall be entitled to participate in the profits of any profit-sharing period, unless he has been employed by the company during the entire period.

Manner of Payment of Profits

1. The amount arrived at as above will be paid half in cash as soon after the close of each profit-sharing period as figures are available, and half in preferred stock of the company will be set aside to be issued as hereinafter provided.

2. Each employee will have the right to purchase the preferred stock of the company at par.

3. If the employee makes such purchase within five days from the date on which he is paid his portion of profits in cash, the company will then issue to the trustees, to be appointed as hereinafter provided, an amount of preferred stock equal to the cash profits paid the employee and invested by him in preferred stock, such additional stock to be credited to the employee on the books of the trustees and issued as hereinafter provided.

Board of Trustees Appointed

A Board of Trustees (hereinafter known as "Trustees") shall be appointed, consisting of three members, as follows: The president of the company and two others, one of whom shall be appointed by the president and the other of whom shall be appointed by the Executive Board.

Term of Office of Trustees

The first Board of Trustees shall hold office until December 31, 1920, and until their successors are appointed and shall qualify. Thereafter, a new board shall be appointed on January 1 of each year, or as soon thereafter as may be convenient, to serve until January 1 of the succeeding year, and until their successors are appointed and shall qualify.

Vacancies

Vacancies on the Board of Trustees shall be filled in the same manner as provided for original appointments.

Powers and Duties of Trustees

1. The board shall keep records showing the amount standing to the credit of each employee at all times.

2. The Trustees shall, at the end of each profit-sharing period, direct the accounting department to furnish them with a list of the employees of the company, showing the cash credits due each thereof as the profits for the period, as herein determined.

3. The Trustees shall, at the end of each profit-sharing period, direct the treasurer of the company to issue a check to the Trustees, covering the total credit due in cash to all employees. Payment shall then be made by the Trustees to each employee, according to his credit due.

4. The Trustees shall, at the expiration of five days from the date on which the cash profits are distributed, direct the secretary of the company to furnish them with a statement showing the sales of preferred stock to employees during the said five days' period; whereupon, the Trustees will direct the secretary to issue to them *en bloc* an amount of preferred stock equal to the aggregate purchases of stock made by employees; provided, however, that the list of sales shall not include purchases by any employee in excess of his cash profits for the last profit-sharing period.

5. It is expressly understood that for the sake of convenience, scrip in lieu of stock may be issued to the Trustees or to any employee on the instruction of or by the Trustees, wherever necessary.

6. When dividends are declared by the company on preferred stock, the dividends received by the Trustees on the stock held by them shall be paid in cash to the employee, on the basis of the amount standing to their credit on the books of the Trustees.

7. The Trustees may, in their discretion, issue to any employee who resigns his position with the company and gives the company fifteen days' notice thereof, a certain percentage of the stock standing to his credit on the books of the Trustees, determined as follows:

For more than one year and less than two years—10 per cent.

For more than two years and less than three years—20 per cent.

For more than three years and less than four years—35 per cent.

For more than four years and less than five years—45 per cent.

For more than five years and less than six years—55 per cent.

For more than six years and less than eight years—75 per cent.

For more than eight years—100 per cent.

The period of service contemplated in the above schedule, as applied to present employees, is considered to date from January 1, 1920, and with those employed thereafter it is to date from the first day of the first profit-sharing period in which the individual was a participator.

8. After an employee has remained with the company continuously for a period of eight years or more after this plan becomes effective, then and in that event the Trustees shall immediately issue to him any stock which previously and under a shorter term of service was to be set aside under this plan, if such employee so desires.

9. The Trustees may, in their discretion, issue to any employee desiring to withdraw any portion of the stock standing to his credit on the books of the Trustees, an amount determined according to the schedule in sub-section (7) hereof.

10. The Trustees may, in their discretion, issue to any employee who is discharged or is compelled to resign his employment for reasons of ill health, or disability of himself or his immediate family, a certain percentage of the stock standing to his credit on the books of the Trustees, such percentage to rest absolutely in the discretion of the Trustees.

11. It shall be within the discretion of the Trustees to recognize the heirs, executors, administrators or dependents of any deceased employee, and to make distribution in cash or preferred stock of all of the representation of such deceased employee in said fund, determined according to the schedule in sub-section (7) hereof. It shall also be within the discretion of the Trustees to distribute in such cases a greater amount

than that shown by the deceased employee's classification, not to exceed the next higher classification.

12. If any employee leaves the employment of the company in such way as to injure or embarrass the company in its activities, or if any employee shall be discharged for persistent negligence, continued infraction of the company's rules, gross insubordination or gross carelessness, he shall forfeit all rights to any benefits from this plan and all such credits forfeited by him shall be transferred to an account on the general books called "Surplus from Forfeiture of Stock," and the Trustees shall transfer stock or scrip to the amount of such forfeitures to the treasury.

13. In all other cases of resignation or discharge of employees, not specifically covered above, the Trustees shall have sole discretion as to the disposition of the credits remaining in the account of any such employee who shall resign or be discharged.

14. It is distinctly understood that unless and until the so-called interest of any employee in the stock, scrip or money held by the Trustees actually matures and is turned over to him in accordance with the provisions of this plan, he has absolutely no ownership therein, legal or equitable, and no claim thereon, and the trustees may, in their discretion, declare forfeited any such so-called interest in the event that such employee attempts to pledge, sell, assign, transfer or in any way dispose of the same.

15. The Trustees of this plan shall not receive, either directly or indirectly, any consideration for their services in the management thereof, and shall be accountable only to the company therefor.

16. The decision of the trustees with respect to any right of participation of any employee, or with respect to any distribution, or with respect to any forfeiture, or with respect to the amount of stock which any employee shall receive upon leaving the company,

shall be final and conclusive upon such employees and upon the company.

17. The trustees of this fund or plan shall have power, by and with the consent of the Board of Directors of the company, to alter, amend or abolish any of the rules and regulations, terms and conditions hereby established, and to make and establish other rules, regulations, terms and conditions in lieu thereof. Said Trustees shall by and with the consent of the Board of Directors also have power to make and establish any new rules and regulations, terms and conditions which may, in their discretion, seem necessary or desirable.

PURCHASE OF ADDITIONAL STOCK

Each employee shall have the further right to purchase additional treasury or unissued preferred stock of the company, but the Board of Directors shall have the power to limit purchases of such stock by any individual.

EXCHANGE OF COMMON STOCK NOW OUTSTANDING FOR PREFERRED

It is expressly understood that this profit-sharing plan is to supersede all previous plans heretofore adopted by the company, and since the sale of common stock to employees was a part of one of these temporary plans, all employees holding common stock who desire to participate in the benefits of this plan will exchange such stock for preferred, the basis of exchange being common at book value, as determined by the next preceding inventory, and preferred at par. The failure of any employee to make the said exchange of stock will be construed as an election on his part to accept the benefits accruing to him as a holder of common stock, as his share of the profits in lieu of the benefits under this plan, to which he waives all claims, except that members of the Board of Directors shall each hold common stock, in order to qualify them to act as directors of the company, and still be allowed to participate in the benefits of this plan.

PURCHASE OF STOCK FROM EMPLOYEES LEAVING COMPANY

In the event of an employee leaving the company for any reason whatsoever, if he desires to sell his stock secured under this plan, the trustees will buy it at par and accrued dividends if any.

SCHEDULE "A"

9. Rate of Distribution

The rate of distribution shall be determined by multiplying the salary of each individual, received during the preceding profit-sharing period by his class number. The aggregate of the results obtained for all employees, divided into the profits to be distributed for the period, will give the rate of distribution.

10. Amount to be Paid Each Employee

(a) The amount to be paid each employee will be determined by multiplying his salary for the profit-sharing period by his class number, and multiplying this result by the rate determined under previous section.

ASSUMING A PROFIT FOR THE PROFIT-SHARING PERIOD, APPLICABLE TO DISTRIBUTION OF $500

Postion	Monthly Salary	Salary for Profit-Sharing Period	Class Factor	Basis of Distribution	Distribution	Constant Share in Profits
Sales Mgr. & V. P..	$300.00	$1,200.00	6	$7,200.00	.027173	$195.65
Driver Truck	125.00	500.00	1	500.00	.027173	13.59
Bookkeeper	150.00	600.00	4	2,400.00	.027173	65.22
Salesman	225.00	900.00	2	1,800.00	.027173	48.91
Office Manager	175.00	700.00	5	3,500.00	.027173	95.11
Buyer	250.00	1,000.00	3	3,000.00	.027173	81.52
	$1,225.00	$4,900.00		$18,400.00		$500.00

COMPANY GIVES ALL EXCESS EARNINGS TO EMPLOYEES

N. O. NELSON MANUFACTURING COMPANY, ST. LOUIS, MISSOURI

The N. O. Nelson Manufacturing Company of St. Louis, Missouri, provides that all excess earnings, over and above 8 per cent upon the outstanding stock, operating expenses, proper reserves, etc. go to the employees. All such excess earnings are distributed among

the eligible employees, in direct ratio to their year's earnings. This amount goes to them, however, not in cash, but in stock carrying a 6 per cent dividend. Thus, each year the employees' total income comes from three sources, (a) his cash earnings, (b) 6 per cent cash dividend upon the stock he has already accumulated, (c) his year's profit-sharing payment in the form of new 6 per cent stock. There are no regulations or restrictions other than the requirement that a man shall be an employee six months before he participates.

The profit-sharing dividend or bonuses paid to employees, under this plan for the first six months of 1920, amounted to 30 per cent of their wages. The dividend for the last six months has not yet been decided upon, but those who are familiar with the operation of this plan, and of this business, expect that it will be at the same rate.

While it is apparent that there was a feeling upon the part of the management that the plan had not proven as effective during the abnormal conditions of 1921, as during previous years, yet, so far as could be learned, there is no expectation of changing or altering the plan.

PROFIT-SHARING AND DEATH BENEFITS

Several companies set aside a definite percentage of profits to support or aid the benefit funds of employees. The Southern Stamp and Stationery Company of Richmond, Virginia, collects 5 per cent of the employee's salary for the pension and death benefit fund, and contributes 5 per cent of the net profits of the company to the fund.

The American Wholesale Corporation of Baltimore, Maryland, contributes 5 per cent of its net profits to the employees' death benefit fund, to which the employees also contribute 5 per cent of their salary. The death benefit in this case is $1000.

RATIO OF PAYROLL TO CAPITAL DETERMINES PROFIT-SHARES

Minneapolis Bedding Company
Minneapolis, Minnesota

Under the plan of the Minneapolis Bedding Company, stockholders are paid 7 per cent on their stock, and certain stipulated reserves are established from earnings. The excess profits are then divided between the company and the employees according to the ratio that the total payroll bears to the total capital invested. The total amount available for distribution among employees is distributed among them directly in ratio to their annual earnings.

The president states that "our experience with profit-sharing has been very satisfactory both in a rising and a declining market."

HALF OF PROFIT-SHARE ACCORDING TO SALARY; HALF ACCORDING TO SERVICE

Title Guarantee & Trust Company, New York

A fund amounting, as determined by the trustees, to one-fourth of the net profits of the company for the year, after payment of all expenses, including taxes and the regular dividend of $1,000,000, will be appropriated as additional compensation of officers and employees of the Title Guarantee & Trust Company, New York City, according to a recent announcement of the company.

The amount of extra compensation so arrived at is to be allotted to such officers and employees as follows:

One-half of the fund shall be distributed in the proportion that the regular salary for the year of each such officer or employee bears to the total salaries of such officers and employees for the year, excepting that in cases of officers and employees who have been in the

service of the company for less than one year, their salaries shall be treated in the computation as if they had been one-half of the actual amounts thereof and their extra compensation figured accordingly.

The remaining one-half of the fund shall be distributed with reference to the regular salaries of such officers and employees coupled with the duration of their service in the following manner:

Those who have been in the employ of the company for less than one year share as if their regular salaries were one-half of the actual amount thereof.

Those who have been in the service of the company for one year but not more than five years, on the basis of their actual salaries for the year.

Those who have been in the service of the company more than five years but not more than ten years, as if their salaries were one and one-half times the actual amount thereof.

Those who have been in the service of the company more than ten years but not more than fifteen years, as if their salaries were one and three-quarters times the actual amount thereof.

Those who have been in the service of the company more than fifteen years, as if their regular salaries were two times the actual amount thereof.

Approximately one-half of the amount due to each employee will be paid at the end of each quarter when dividends are paid and the balance at the end of the year, provided such employee remains in the service of the company until such times, respectively.

The amount due an employee is based on the whole year's earnings and if the advance payments made during the year exceed one-half of the amount he is entitled to for the year this will be corrected in the final adjustment at the end of the year. The one-half is retained not alone for purposes of this adjustment, but also to encourage our employees to make some savings from their salaries.

General Regulations

I. No employee can share in the compensation except with the consent of the officers of the company.

II. The extra compensation is paid on the actual salary received during the year.

III. Absence from the office on military service is not deducted in computing an employee's length of service.

IV. In determining an employee's length of service, employment by the company at any previous time is included as well as service with such related companies as the Bond & Mortgage Guarantee Company, Westchester Title & Mortgage Company, Realty Associates, etc.

V. When any employee is retired from the company's service and receives any continuing payment from the company in the nature of a pension, he is not to receive any share in the profits.

VI. To be entitled to share in the extra compensation an employee must continue with the company to the end of the quarter in which each payment is made and can only share in the final adjustment if he continue to December 31 of the year in which the extra compensation is paid. Extra compensation forfeited by resignations, etc., will be added to the amount to be distributed in the December payment to those who remain.

VII. The extra compensation to janitors, watchmen and building employees is provided in a separate schedule.

VIII. The company reserves the right to withdraw the plan during the month of January of any year.

FLEXIBLE PLAN PROVIDES TWO FUNDS

The Guaranty Trust Company, New York

The Board of Directors of Guaranty Trust Company of New York have adopted the following plan for the

payment of compensation to officers and employees in addition to their salaries, which they purpose to put in operation for the year 1919 and (subject to the provisions hereinafter stated) in subsequent years, in lieu of the bonus heretofore paid.

This plan shall apply only to officers and employees of the company in the United States and to officers and employees in foreign countries who are directly connected with the head office in New York.

Any officer or employee, who from any cause shall not be in the service of the company at the end of any calendar year, shall have no right to a share of such additional compensation for such year unless the Board of Directors shall otherwise determine. The company further reserves the right to exclude from the benefit of this plan any officer or employee the character of whose work shall not have been satisfactory, or who shall have been employed for a special purpose.

The amounts to be distributed annually under this plan to officers and employees as additional compensation for services rendered to the company shall be computed as follows:

1. There shall be set aside for distribution to employees (not officers) an amount equal to 3½ per cent of the net earnings for the year, which shall be distributed among them prorata in the manner hereinafter provided. The "net earnings" for the purposes of this plan shall be so much of the gross earnings, receipts, and credits of the company's business for the year as shall remain after deducting all expenses incurred in the conduct of the business, including taxes, interest, and other charges, and all losses, depreciation, charge-offs, or reserves created for any purpose, as entered upon the books of the company for the year, but before payment of dividends. The determination of such net earnings by the Board of Directors shall be final and conclusive.

2. After deducting from such net earnings the amount to be set aside as provided in the preceding paragraph

and also an amount equal to 10 per cent of the stockholders' money invested in the company, as determined by the average amount of capital, surplus, and undivided profits shown on the books at the end of each month, during the year, a further sum shall be set aside equal to one-fifth of the net earnings as so reduced. This second fund shall be distributed as follows:

Forty per cent among employees not officers;

Forty per cent among senior officers chiefly responsible for the production of business and the conservation and management of the company;

Twenty per cent among other officers.

The designation of officers as senior officers or as other officers shall be made by the Board of Directors at or about the beginning of each calendar year.

The employees' share of this fund, together with the entire 3½ per cent fund above mentioned, shall be distributed prorata in the manner hereinafter provided.

Of the senior officers' share of this fund, one-half shall be distributed prorata in the manner hereinafter provided, and, one-half shall be placed in a special service fund for payment to senior officers selected by the Board of Directors as deserving special recognition for services rendered.

Of the other officers' share of this fund, two-thirds shall be distributed prorata in the manner hereinafter provided, and one-third shall be placed in a special service fund for payment to officers of this division selected by the Board of Directors as deserving special recognition for services rendered.

The payment from the special service funds to selected senior officers and other officers respectively shall be in such proportions as shall be determined by the Board of Directors.

The setting aside of a special fund as above provided shall, however, not reduce the prorata distribution in either division to less than 10 per cent of the amount of the salaries of the officers in such division.

The decisions of the Board of Directors upon all questions in respect to distributions and to officers and employees who shall or shall not share in any distributions shall be final. Directors who are officers of the company shall not vote at meetings of the board or of the Executive Committee upon any questions relating to this plan or its operation.

The prorata method of distribution of the additional compensation above provided (exclusive of the special service funds) shall be based on:

(a) The relative value of services as indicated by salaries;

(b) Length of service.

To combine these two factors into figures upon which the amounts to be distributed may be prorated, a base figure shall be used of 10 per cent of the salary received by an officer or employee for the calendar year for which such amounts are to be distributed, to which shall be added for length of service an amount representing 1/10 of 1 per cent of the salary received by such officer or employee during such calendar year multiplied by his years of service prior to such calendar year, which result shall constitute a control figure upon which to prorate such amounts; provided that the maximum allowance for length of service shall not exceed 1 per cent. For all years other than the current calendar year, a fraction of a year shall count as a full year. Length of service shall include service with any other company merged with this company.

When the control figure for each officer or employee has been computed in the manner above set forth, the officers and employees shall be grouped into the respective divisions provided by this plan, and the individual control figures for each division shall be totaled. The amounts for prorata distribution in each division shall then be divided by the total control figures of such division to ascertain the percentage to be used in making the distribution. After the percentage for each division

has been ascertained, each officer's or employee's control figure shall be multiplied by the percentage for the division to which he belongs, to determine the prorata share to be paid to such officer or employee.

In working out the problem we were obliged to keep in mind two important factors—one was that for a number of years the officers and employees had been receiving a 10 per cent bonus at the end of each year, and the other was that the company was paying $5,000,000 in dividends, representing 20 per cent on its capital and a little less than 10 per cent on its capital, surplus and undivided profits.

Ten Per Cent Bonus

In first tackling the problem we tried to work out a division of the profits after 10 per cent had been allowed on the stockholders' money, investment and capital, surplus and undivided profits, but we found that by applying the plan to the results of the business for the previous eight years that there were one or two years where the clerks would have received only a small amount, and our feeling was that in view of the 10 per cent bonus we should, if possible, get a plan by which there would be little doubt but that they would always receive at least 10 per cent.

We then tried a plan of giving the clerks their share of the profits before interest was figured on the capital, but encountered another difficulty in the fact that the per cent of profits going to the clerks on the gross profits, which were considerably larger than the net, was so small that a considerable increase in gross profits made but little increase to the clerks, and therefore did not offer the incentive to the clerks to help build up the profits of the company.

Profits Before and After Interest Figured

We therefore devised the plan of giving the clerks part of their profits before interest was figured on the

stockholders' money, and part of their profits after, the former being a fairly constant figure, and the latter one which would perhaps increase their share of the profits a considerable amount in very good years.

It will be noticed in the plan that the profits have been divided into three funds,—part to the clerks, part to the senior officers chiefly responsible for the creation and management of the business, and part to the other officers. This further segregation has the advantage that the clerks receive a fund which is all their own, and by their efficiency or lack of efficiency in a measure decide how many the fund will be divided among.

Another purpose of the separation is to bind the senior officers closely to the company, because there is hardly an instance where a senior officer could not make more money if in business for himself, than the company could afford to pay as a regular fixed charge, and to take care of this provision, the senior officers' share of the profits is divided into two funds, half for a regular prorata distribution, and half to special service fund to be distributed among officers designated by the Board of Directors. This same plan was adopted to a lesser extent with the junior officers, the share of the profits going to the junior officers was divided two-thirds to the regular distribution, and one-third to the special service fund.

As an equitable method of distributing the special service fund, we decided on the plan of grouping the senior officers into four groups, and setting up new control figures upon which to prorata the special service fund. The new control figures for the officers in Group A are three times their control figure in the regular distribution; officers in Group B twice their regular control figure, while officers in Group C receive the same as their regular control figure, and officers in Group D not sharing in the special service fund. The "other" or junior officers sharing in the "other" officers special service fund were treated in the same way.

The officers designated as senior officers under the plan are:

Chairman of the board (who is active), president, vice-presidents, comptroller, treasurer, secretary, managers and assistant managers of branches in foreign countries.

LENGTH OF SERVICE INCREASES PROFIT-SHARES

Brooklyn Edison Company, New York

At the end of the year employees will be credited with a sum out of the profits of the company's operations for that year, in accordance with the following schedule:

To those employees who have been in the company's service two full calendar years a percentage of their salary or wages for the year, equivalent to one-quarter of the rate of dividends paid on the capital stock during the year.

To those employees who have been in the company's service three full calendar years a percentage of their salary or wages for the year, equivalent to one-half of the rate of dividends paid on the capital stock during the year.

To those employees who have been in the company's service four full calendar years, a percentage of their salary or wages for the year, equivalent to three-quarters of the rate of dividends paid on the capital stock during the year.

Those who have been in the company's service five full calendar years or more, a percentage of their salary or wages for the year, equivalent to the full dividend rate paid on the capital stock during the year.

This profit-sharing plan is adopted for the current year only, and it will continue from year to year only as the Board of Directors may adopt it for each year. Provisions herein for more than one year are contingent

upon the adoption of the plan by the Board of Directors for subsequent years.

The amount of these credits will be paid in cash to the trustees of the Brooklyn Edison investment fund to the credit of the individual employees and shall be subject to the conditions and by-laws of the said fund, which are annexed hereto, except as modified by the following restrictions:

The sum credited in any year cannot be withdrawn within three years, except with the consent of the Provident Committee and for one of the following reasons:

To make payments upon the purchase of a home.

Because of death of the employee.

Unusual necessity in the opinion of the committee.

All moneys or credits to which any employee would be otherwise entitled and which have not previously been subject to withdrawal at the option of the employee, shall be wholly forfeited by him, and shall revert to the company, or if already paid to the investment fund, shall revert to the fund, in the event that:

Such employee is discharged by the company for misconduct; or

Such employee leaves the employment of the company without giving the company one month's prior notice in writing, unless the necessity of this notice is waived in writing by the company at the time of leaving; or such employee without the written consent of the committee assigns to any one or attempts to transfer, sell or encumber any interests he may have in said amounts; or

Such employee shall become insolvent or bankrupt.

The Provident Committee may, in its discretion, withhold a part or all of the share of profit to which an employee might otherwise be entitled, if for any reason, the committee may be of the opinion that such employee ought not to receive or have the benefit of the same; and if any sum shall be so withheld by the committee, such employee shall in no event have any interest in the sum so withheld.

In case of the forfeiture of any employee's profits, the committee may, in their discretion, give the same to the family of said employee.

Any employee who leaves the employment of the company and gives one month's notice of his intention to do so, shall be entitled to withdraw the share of profit therefore credited to him at the expiration of six months from the date of giving such notice, after which period of six months the share of such employee if not withdrawn will cease to participate in dividends or profits of the investment fund.

After three successive annual sums have been credited to any employee, the Provident Committee will, on request of such employee, deliver stock certificate for the number of full shares covered by such credit, less the amount of the last preceding year's credit, at a price which the Provident Committee shall determine to be the average cost price of the stock held by the fund.

Upon the death of any employee his profits may be immediately withdrawn by his family, next of kin or legal representative, conditioned upon the presentation of proofs satisfactory to the committee.

No restrictions are placed upon the withdrawal of dividends declared by the investment fund upon the profit-sharing investments of the employees; and none of the restrictions placed upon the profit-sharing investments shall apply in any way to the moneys paid into the fund directly by the employees.

The company expressly reserves and will exercise its right and privilege to discharge from its service at any time any employee, when its interests so warrant without liability for any share of profits.

OLDER EMPLOYEES RECEIVE LARGER SHARE

Cleveland Twist Drill Company

The first division of profits took place in February, 1916, when employees who had been with the company

since July 1, 1913, received a cash dividend amounting to about 10 per cent of their year's earnings.

PRESENT PLAN

1. Before any profits are divided with employees the stockholders shall receive 8 per cent per annum on their investment.

2. When the above 8 per cent interest has been paid to the stockholders in any calendar year, all cash dividends subsequently declared in that year will be divided between (1) the stockholders on the amount of their investment and (2) the employees on the amount of the salary or wages earned by them during the twelve months ending June 30 of that year, as follows:—

A. Employees who have been continuously in the service of the company for at least two years prior to July 1 will receive dividends at the same rate as the stockholders.

B. Employees continuously in the service for more than one year, prior to July 1, and less than two years prior to July 1, will get three-fourths of that rate.

C. Employees who have served continuously for less than one year, prior to July 1, will get one-half the rate to stockholders.

D. Dividends that have accrued to employees will be distributed once a year in December.

3. No person will be entitled to a share in this distribution unless he is a bona fide employee of the company in good standing at the time of the distribution; except that employees who are at that time temporarily laid off owing to lack of work or sickness will be entitled to the share accruing to them on the wages earned by them during the twelve months ending June 30 of that year.

4. Employees voluntarily leaving the service of the company, or dismissed, or discharged, will forfeit their right to any accrued dividends.

5. Any employee who may receive a commission from the company or any share in the profits other than as provided for in this plan (except thru dividends on stock if a stockholder) shall thereby be rendered ineligible to receive dividends under this plan.

6. All employees—except those noted in the three preceding sections—shall be eligible to share in dividends.

7. The above plan for division of profits is purely voluntary on the part of the company and is in no sense a contract. The right is therefore reserved to the directors to make at any time, without restriction, such changes in the plan as they may consider desirable for the best interests of the organization. The fact that any employee is receiving the benefits of this plan shall not deprive the company of the right at any time to discharge such employee and thereby terminate his participation under the plan, nor shall any employee acquire any right thereunder to any accounting by the company concerning its business or profits.

WITHHOLDING PROFIT-SHARES TO INDUCE CONTINUED SERVICE

The plan of a large corporation that has a yearly plan of profit-sharing, changed annually, contains the provision that one-half of the amount due the employee may be invested in stock which is not delivered in full until four years have elapsed. The provision follows:

Within thirty days after the annual audit of the corporation's books shall have been completed, you will be notified of the amount of the bonus, if any, to which you are entitled under this plan (7 per cent is paid on preferred stock, 6 per cent on common, and amortization fund paid before profit-share is declared) and you will receive a check for the amount, provided that the Finance Committee may, at its option, invest for your account in common stock of the corporation, one-half of the amount due you, which stock will be delivered to you, subject to possible forfeiture mentioned below (discharge or leaving company) 25 per cent within thirty days after February 1, 1921,

25 per cent within thirty days after February 1, 1922, and 50 per cent within thirty days after February 1, 1923, provided you have continued uninteruptedly in the service of the corporation to said dates.

The above announcement is dated April, 1919.

PROFIT-SHARING THROUGH STOCK OWNERSHIP

Procter and Gamble Company, Cincinnati

Who Is Eligible

Any employee (except salesmen and traveling representatives) of the company, or subsidiaries, earning as salary or wages an amount not exceeding $2,000 a year, upon application to the treasurer of the company, and with its approval, may have purchased for his account, at the market value thereof at the time application is received by the treasurer, the nearest number of one-eighth shares of the common stock of the company the total cost of which to him equals or exceeds the amount of his annual salary or wages.

Trustees Hold Stock

The stock so purchased for such employee to be held for his benefit by three trustees to be appointed from time to time by Board of Directors of company. Trustees may be selected at the board's discretion from the company's officers, directors or employees.

How Paid for

Employee to repay to company in cash during each year after date of purchase of stock until it is fully paid for not less than 5 per cent of total amount of his annual wages.

All profit-sharing dividends due such employee, credited upon such purchase price until stock is fully paid for, and thereafter all profit-sharing dividends paid in cash to such employee in accordance with the terms of this plan.

Certificate of Contract—Pass Book

Immediately upon the approval by company of employee's application, the trustees issue to him a certificate of participation and a pass book, the former setting forth the formal contract between the company and the employee, the amount of stock bought for him, the price paid for same, and the company's guarantee as to conditions and on the basis herein outlined.

The trustees, from time to time, as dividends or payments are made or credited for the account of the employee participating, shall have proper entries made in his pass book.

Rate of Dividend

Profit-sharing dividends will be paid by the company, on the amount of the employee's annual wages, exclusive of the amount earned by him by working overtime, but in no event on an amount exceeding $2,000 per annum, at the rates shown below:

	Per cent
1st year of participation	10
2nd " " "	11
3d " " "	12
4th " " "	13
5th " " "	14
6th " " "	15
7th " " "	16
8th " " "	17
9th " " "	18
10th " " "	19
11th " " "	20
After 11 years	20

Method of Dividend Payment

1. Profit-sharing dividends payable at the end of each calendar month, except as herein provided.

2. Profit-sharing dividends to be credited or paid to employee only in case he is still in employ of the company on the dates said dividends are payable and employed continuously from the date of his certificate of participation.

3. No profit-sharing dividend credited or paid to any employee unless his total cash payments for entire time he has been participating under this plan equal at least 5 per cent of his total wages for such period.

4. If employee is discharged or leaves employ of company or makes application for withdrawal from plan, he shall not receive or be credited with any profit-sharing dividend on wages earned by him during his last uncompleted monthly period.

5. At the end of each calendar month, after he has been a participant under this plan for a full year, the trustees deliver to the employee trust certificates evidencing his ownership of all such one-eight shares of the common stock of the company as have been fully paid for by him in the manner provided, and at the price per share indicated on his certificate of participation.

6. On such trust certificates for one-eight shares when and after delivered, participant receives in cash his proportion of all dividends as and when declared and paid upon the common stock of the company. He may exchange trust certificates or regular certificates for full shares of the common stock of the company at any time by presenting them in multiples of eight to the trustees under this plan.

7. "Inasmuch as the main purpose of this plan is to have the employees of the company become and remain holders of its common stock, it is hoped no employee will sell any trust certificates or regular certificates of stock obtained under this plan, except in case of extreme emergency. Therefore the trust certificates for one-eighth shares can be assigned only to the trustees under this plan. The trustees, however, upon written application of the employee, will repurchase the same at the prevailing market price, subject to the conditions herein provided."

8. If an employee sells or disposes of stock of the company received by him under this plan, without formal consent of the trustees, so that his remaining holding is

reduced below the number of shares constituting his original subscription, his profit-sharing dividends cease with the previous monthly payment and are not resumed for one year, and then only upon his resubscription on the basis of a new subscriber.

9. The employee is to surrender his pass book and certificate of participation to the company whenever his employment with company ceases. In which event he is paid or tendered the value of his interest in same on the date of the termination of his employment according to the provisions of this plan.

10. Neither certificate of participation, trust certificate, pass book nor any interest therein may be assigned or transferred by the employee, except to the company as provided, and the company will not recognize any such attempted assignment or transfer from the name of the original holder.

INCREASE HOLDING WITH WAGE INCREASE

1. When an employee receives an increase in wages so that his annual earnings then exceed the amount of his original subscription under this plan, (such wages as increased, however, not being in excess of $2,000 per annum), he may have purchased for his account, subject to all the conditions of this plan, the nearest number of additional one-eighth shares of the common stock of the company at its then market value as shall make the total cost of stock subscribed for by him under this plan equal to or in excess of his annual wages (exclusive of overtime earnings) after such increase.

2. He receives thereafter profit-sharing dividends upon the total amount of his annual wage, provided, however, in no event, shall he receive profit-sharing dividends upon an amount in excess of $2,000 nor in excess of his annual wages exclusive of overtime.

3. Any employee under this plan, whose wages are increased to a sum in excess of $2,000 per annum, exclusive of overtime, and who in consequence is no longer

entitled to receive profit-sharing dividends under this plan, whose subscription has not been paid in full and who desires to complete the payment of same, may continue to pay annually on account thereof, an amount equal to the 5 per cent per annum payment required under this plan, plus a further annual amount equal to the year's profit-sharing dividend last credited to his account, and in so doing retain his stock interest under this plan until same is paid in full.

How Withdrawal Is Made

An employee may at any time surrender his pass book and certificate of participation and withdraw his interest thereunder, subject to the terms and conditions stated below:

Notice and Surrender

He must give notice in writing to the treasurer of the company of his desire to receive such money as may be due him, and must surrender his pass book and certificate of participation. Thereupon without regard to the length of time he may have been a participant under the plan, his profit-sharing dividends cease with the previous month and shall not be resumed for a period of one year, and then only upon his resubscription under the plan upon the basis of a new subscriber.

Withdrawal Before Participating for One Year

An employee giving such notice of his desire to withdraw from this plan, who has been a participant under same for a period of less than one year prior to the date of his written notice of withdrawal, shall have refunded to him and shall be entitled to receive only such amount as he actually has paid in cash toward the purchase of his stock, plus interest as 6 per cent per annum but he shall not derive the benefit of any profit-sharing dividends which may have been credited to his account in the meantime.

Withdrawal After Participating for One Year

An employee, giving such written notice of his desire to withdraw from this plan, who has been a participant under same for a period of one year or more and whose subscription is not paid in full, shall receive within ninety days thereafter, in addition to such one-eighth shares as may have been delivered to him, an amount in cash equal to the balance standing to his credit. The employee so withdrawing from this plan, can sell to the company at any time on the basis of the then market price of full shares, all such trust certificates representing one-eighth shares of common stock of the company as may have been issued to him.

Discharged Employee

The fact that an employee is taking advantage of and is receiving the benefits of this plan, does not deprive the company of the right at any time and for any cause to discharge such employee and thereby terminate his participation under this plan. Participation in the benefits of this plan cease immediately upon the termination of employment. A settlement with him is then made based on the status of his account on date of termination, subject to the conditions and provisions governing withdrawals.

Death of Employee

Upon the death of an employee participating in this plan, immediate settlement is made with the legal representatives of his estate in the manner provided by law, but on the basis outlined in the paragraph providing for withdrawal after participating for one year regardless of the time such employee actually may have been a participant under the plan.

Alteration or Termination of Plan

The company reserves the right as against any or all employees, to alter or amend this plan at any time

and to terminate the same altogether at the end of any fiscal year. In such event, settlement with each participant will be made according to the conditions of his individual account at such time, and under the conditions governing withdrawal.

A "FIFTY-FIFTY" PLAN

Harvard Knitting Mills, Wakefield, Massachusetts

A number of employers have attempted to divide the profits of their companies between employees and company according to a fifty-fifty basis. Notable among such plans is that of the Harvard Knitting Mills of the Winship, Boit & Company. This plan differs from others of the fifty-fifty type in that half of the employee's profit-share is paid in cash, the other half being retained in the business, with certificate for same being credited to the employee.

Reasons for Sharing Profits

The reasons for sharing profits with their employees are given by Mr. Charles Winship:

1. It seemed to us that if we were to accumulate money it would be better to share it with the people who helped to make it than to give too exclusively for educational, philanthropic or other worthy objects, however important such objects might be.
2. We believed that our workers would have a greater interest in the business.
3. We felt confident that better quality goods would be turned out.
4. We thought that the employees would work together and cooperate to a greater degree, knowing that the profits of each one depended to a large extent upon the amount of work which he and his co-workers produced.

5. It seemed to us that a man in this employee-partnership would say to himself: "I am a part of this company. It is to my advantage to see that everything is done to protect the interests of the company, to further its aims and to make it a success in every way."

The following is the text of the agreement with employees.

Agreement

Agreement made and entered into this first day of January, in the year one thousand nine hundred and ....., by and between Winship, Boit & Company of Wakefield, in the County of Middlesex and Commonwealth of Massachusetts, one of the United States of America, doing business as manufacturers of underwear and other woolen and cotton clothing at said Wakefield, party of the first part and herein called proprietors, and .....
of .....
who has been in the employ of said proprietors for more than one year prior to the date hereof, and herein designated employee-partner, party of the second part, for the following purposes, to wit:

Witnesseth That, Whereas, the proprietors are desirous of establishing a profit-sharing arrangement between themselves and all of their employees which shall be just between them and signature of the proprietors and each and all of their employees, to the end that the whole body of said employees shall be entitled to and receive one-half of the net profits of the business above described in the proportions and upon the stipulations hereinafter set forth: and to promote and secure more cordial and profitable relations between the proprietors and their employees as employee-partners as aforesaid, an increase of interest in the welfare and prosperity of the business, an inducement to greater care and economy in the use of materials, the awakening of a stronger desire to and a greater pride in the manufacture of the

very best possible products; the encouragement of economy, thrift, and accumulation on the part of the employees, that they may become more independent financially, better fitted for the discharge of all duties of public and private life, and especially the promotion of the welfare and better education of their children; and that through their individual and combined efforts the standard of civilization may be in some measure elevated.

STIPULATIONS

Eligibility—One Year's Service

1. From and after the date hereof the proprietors above named and all persons who have been continuously in their employ for a period of one year and shall sign this or a like agreement do, and all persons who may be and remain in the employ of said proprietors continuously for a period of one year next prior to the first day of January in each succeeding year and shall each individually join with said proprietors in a like agreement shall become partners between themselves and said proprietors in the net profits of said business upon the terms and stipulations herein contained and be called and known as employee-partners.

Employees in Service One Year Receive, in Addition to Wages, Percentage of Earnings for Year

2. All employees who have been in the employ of the proprietors for one year or more prior to the date hereof shall receive in addition to their wages an interest in said business based on their earnings for the year 1919 and their length of service with said proprietors, to wit, those who have been so employed to receive an interest equal to 20 per cent of their earnings for said year, and those who have been in said employ for a longer period to have 1 per cent additional for each year of faithful service, and to receive a certificate therefor, these shares to begin January 1, 1920.

Annual Profits to Be Split 50-50

3. As soon as may be after the thirty-first day of December, 1920, the net profits of the business of the proprietors for the calendar year 1920 shall be ascertained. One-half of said sum shall be placed to the credit of the body of employee-partners by proper entries upon the books of the proprietors. The other one-half of said sum shall remain the sole and separate property of the proprietors. As soon as may be after the thirty-first day of December in each succeeding year until this agreement is abrogated the net profits of the business of the proprietors for that calendar year shall be ascertained, divided, and entered upon the books of the proprietors in the same manner. The one-half of the net profits of the business credited to the body of employee-partners shall be divided among the individual employee-partners in proportion to their wages or salary for the year in which the division is made, that is, as the whole payroll is to the sum to be divided, so is the amount of the wages or salary to the individual amount which each employee-partner is to receive. Fifty per cent of this amount will be paid in cash and a certificate will be issued for the remaining 50 per cent to each individual employee-partner.

Each employee-partner shall be credited upon his certificate with the amount to which he is entitled under this agreement, for the current year, which amount shall remain in the business of the proprietors and be entered upon the books of the proprietors to the credit of each individual employee-partner and upon which the proprietors shall pay annually to the employee-partner interest at the rate of 6 per cent per annum.

All persons who hereafter enter the service of the proprietors and become employees and who continue in the service one year shall receive an interest in said business equal to 20 per cent of their earnings for that year and shall receive certificates therefor; if actually

in service less than one year they shall not be entitled to receive such percentage.

Any employee-partner who has been in the employ of the proprietors for the term of five years or longer and who has arrived at the age of sixty years shall have the right to withdraw each year 50 per cent of the amount credited on his certificate, said withdrawal to be made as of the first day of January in each year.

Whenever an employee-partner who has received certificates as aforesaid for five years or more, or who has been in the employ of the proprietors five years or more, prior to the date hereof, retires from the employment of said proprietors he shall have his certificates redeemed at full value in one year after he has given notice of his retirement, with interest at the rate of 6 per cent per annum, the valuation to be as of the date of payment. An employee-partner leaving before the expiration of five years' service shall permit the amount for which he holds certificates to remain with the proprietors until the expiration of five years from the date of his employment and shall receive interest thereon annually at the rate of 6 per cent per annum.

The proprietors reserve the right to pay the whole or part of any certificate at any time.

In case of the death of any employee-partner the full amount to which he was entitled at the time of his death shall be paid in cash to his legal representatives.

Interests of Employees Not Assignable

4. All payments shall be made to the individual employee-partner in person or upon his or her written order. All interests of the employee-partners above-named shall be held by the proprietors free from any claim of parents or guardian and from attachment upon any legal process or decree in any equitable process so far as the law will permit.

This contract shall not be assignable, except to the proprietors.

Losses to Be Borne Equally

5. In case that in any year a loss or losses occur in the business carried on by the proprietors as aforesaid the same shall be borne in equal parts by the proprietors and the employee-partners if there are sufficient funds in the hands of the proprietors belonging to the employee-partners to meet such obligation, and the same shall be taken for that purpose from the general fund so held by the proprietors. If there are not sufficient funds so held by the proprietors the difference shall be advanced by the proprietors and shall become a charge against the general fund of the employee-partners as aforesaid. The deductions from this fund and all charges thereon shall be in proportion to the amount credited to each employee-partner.

Provisions for Dependents in Case of Death

6. In case of the death of any employee-partner who has been in the employ of the proprietors for one year or more leaving a dependent widow and a child or children under the age of sixteen years, there shall be paid to said widow for herself and her child or children, such sum per month as may be deemed reasonable by the proprietors under the circumstances of each particular case, no payments to be made to or for the benefit of any child after he or she arrives at the age of sixteen years. In case of the death of any employee-partner who is a widow, and leaving a dependent child or children, payment under like conditions will be made to the guardian of such child or children.

These sums shall be charged to the general expenses of said business.

Employees May Hire Own Accountant

7. At the end of each calendar year the regular accountant of the proprietors shall ascertain the amount

of the net profits made in the business carried on by the proprietors and state to each employee-partner the amount due him under this agreement, which statement shall be final unless a majority of all the employee-partners by a written ballot shall vote to have the books of the proprietors examined for the purpose of ascertaining the net profits. If such a majority so vote, they may employ a competent accountant who shall in person examine the books and state the amount of net profits made in the business for the year then last past, at which examination an accountant for the proprietors may be present. The expense of such an examination for the employee-partners shall be paid and taken from the fund credited to the employee-partners on the books of the proprietors.

Committee of Employees to Deal With Management

8. A majority of all the employee-partners shall as soon as may be choose from their own number a committee of five who shall act for and on behalf of the employee-partners in all negotiations, suggestions or requests affecting the body of employee-partners which said committee shall deem proper or desirable to submit to and discuss with the proprietors. This shall not preclude any individual employee-partner from presenting to the proprietors any request or suggestion affecting him or her personally which said individual employee-partner thinks should be discussed with the proprietors.

Controversies May Be Referred to Company

9. In case any controversy as to promptness, efficiency, neatness, care and exactness in work, or civility and propriety in conduct shall arise between any employee-partner and any person having the care and supervision of the work of such employee-partner, the same may be referred by either party to the proprietors, whose decision shall be final.

Certificates Not Assignable

10. When any person becomes an employee-partner under the terms of this agreement he or she shall receive a certificate of that fact signed by the proprietors, which shall state that neither said certificate nor this agreement shall be assignable by the employee-partner, except to the proprietors.

Company Retains Full Control of Business

11. The title to all property shall be and remain in the proprietors and the business of the proprietors shall be owned, conducted, managed and controlled solely by them without let, hindrance or interference on the part of the employee-partners or any of them.

Company Reserves Right to Hire and Discharge

12. The proprietors reserve to themselves alone the right to increase or decrease the number of their active employees as they consider their business interest require, and the right to discharge any employee at any time when in their judgment the best interests of the business requires such action, and full settlement between the parties shall be made at that time.

Employees May Ultimately Run Business

13. If at any time the interests of the employee-partners shall exceed the value of the property and business of the proprietors at a fair valuation, a corporation or association under the laws of the Commonwealth of Massachusetts shall be organized upon the initiative of the proprietors or of a majority of all the employee-partners, to which all the real and personal property of the proprietors, used by them in said business, together with the then existing business, the good will thereof, and the right to use the name Winship, Boit & Co., shall be transferred, and all the interests of the

employee-partners shall be transferred, and surrendered to said corporation. The capital stock of said corporation shall be equal to the value of all property, rights and interests that have been conveyed, transferred and surrendered to said corporation by said proprietors and employee-partners.

The par value of the stock of said corporation shall be $100 per share. The proprietors and employee-partners and each of them shall receive and accept in full payment of their several separate interests, shares of the capital stock of said corporation or association at their par value. For any interest not equal to $100, cash shall be paid by the proprietors and said interests transferred to them. The certificates of said stock may be transferred upon the books of said company by the Wakefield Trust Company or other transfer agent duly appointed.

Minors to Receive Approval of Parents

14. In the case of minor employee-partners this agreement shall be assented to by the father, if living, if not living, by the mother if living, and if neither is living, by the guardian, if any.

Agreement May Be Terminated After Two Years

This agreement may be abrogated, and this plan for profit-sharing abandoned by the proprietors, their successors, assigns or legal representatives, at any time after the expiration of two years from the date hereof, if in their opinion, the purposes for which it is established as hereinbefore set forth have not been realized, and the certificates shall be redeemed in full at that time.

This instrument shall be executed in duplicate and shall be effective from the first day of January A.D. 19. . . All subsequent agreements of this character shall be dated on the day of their execution.

IN WITNESS WHEREOF we, Winship, Boit & Company, the Proprietors above named, and.....
.....
the Employee-Partner above-named, have hereunto set our hands the day and year first above written.
.....
.....
Witness to both: .....
I, ...
father-mother-guardian of the above-named employee-partner, a minor, hereby assent to the foregoing agreement.
.....

Certificate

This certifies that .....
.....
is an employee-partner in the profits of the business carried on by the undersigned Winship, Boit & Company, at Wakefield, Massachusetts, manufactures of underwear and other woolen and cotton clothing, under an agreement dated the first day of January A.D. 19. . ., to which this certificate is attached.

The amount credited to each employee-partner on said date is entered commencing with entry "Jan. 1, 19 . ." and the amount with which each employee-partner should be credited on the first day of each succeeding year will be entered upon presentation of this book at the office of Winship, Boit & Company.

Neither this certificate nor said agreement is assignable, except to the proprietors.

Fifty-Fifty Plan of National Cash Register Co

Announcement was made by the National Cash Register Company of a new profit-sharing plan to be put in operation at the Dayton, Ohio, plant of the company

for the year 1920. Employees share fifty-fifty in the net profits of the company after an amount equal to 6 per cent interest on the company's investment is deducted. The plan as originally announced is as follows:

The profits of the company will be determined by a disinterested outside firm of accountants. After the net profits have been determined an amount equal to 6 per cent interest on the company's investment will be deducted, and the remaining profits divided into two equal shares, 50 per cent to go to the company, and the remaining 50 per cent to be divided among the employees.

"The company's share is for the purpose of maintaining, sustaining and increasing the business, building new buildings, purchase of new machinery and other equipment, and the maintenance of its present buildings, machinery and equipment."

The profits to be distributed among the employees will be divided into two parts, one-half (25 per cent) to the management, exclusive of the owners, and one-half (25 per cent) to all other employees at Dayton.

The employees who make up the management exclusive of the owners, are Class "A," comprising the executives and supervisors, consisting of thirty-five or more employees, who will receive 12 per cent; Class "B," comprising foremen, consisting of eight-five or more employees, who will receive 5 per cent; Class "C," comprising job foremen and other employees holding equal positions, consisting of four hundred or more employees, who will receive 8 per cent.

Class "D" comprises all other employees at Dayton who have been in the employ of the company for thirty days or longer, who will receive the remaining 25 per cent of the distributed profits.

Class "E" comprises all employees who have been with the company less than thirty days. Class E members do not receive a share of the distributed profits.

Profits of each class will be distributed in proportion to the wages or salaries received for the six month's period.

Distribution of all profits will be made semi-annually, as soon as possible after July 1, 1920, and December 31, 1920. Profits will be paid on regular profit-sharing dates.

No employee will receive profits unless he has been with the company six months or more after becoming a profit-sharer. Any profits to which he may then be entitled will be paid at the next distribution of profits.

"The directors of this company," says the announcement, "have put this plan into effect because they feel it is right to share the profits with those who have helped to make them.

"It is the desire of the company at all times, independent of the profit-sharing plan, to pay to all employees a salary or rate at least equal to the high prevailing rate in this section of the country for like lines of work.

"It is hoped that this plan will accomplish the following results: (1) Promote thrift; (2) increase efficiency; (3) reduce labor turn-over; (4) put heart into the work; (5) create closer cooperation; (6) make better living conditions; (7) create incentive for promotion; (8) increase production and decrease costs; (9) prevent waste of material, time and labor; (10) make everyone feel like a partner in the business."

A DEVICE TO BRING THE PROFIT-SHARING INCENTIVE CLOSER TO THE EMPLOYEE [1]

Generally speaking, the idea of profit-sharing has a popular appeal, but upon extended analysis it is found that the position of labor is so far removed from the

[1] From Bulletin. Bureau of Commercial and Industrial Relations. University of Wisconsin.

intricate processes of business and finance that it must be some time before labor can be expected to have implicit confidence in the methods by which profits are derived and estimated. Since labor's share in profits under the usual profit-sharing plan bears some relation to the return paid on invested capital, it follows that as between two industries of different nature but employing workmen of similar intelligence and skill, the profits of one group as compared with the other will depend upon many factors necessarily differing in the two industries.

These differences cannot appear to workers without a great deal more education for workers and a great deal more publicity for comparing records. Stability of earning power may be lacking, and comparisons of relative compensation almost invariably lead to dissatisfaction. The added incentive required to induce extra effort by labor cannot be obtained through division of profits where profits mean return on capital; and some other method bringing the added incentive closer to the workmen's daily effort is necessary. This can be accomplished by a fixed gain-sharing plan or by supplying to the worker a continuous exhibit of the behavior of the business.

A plan that illustrates a successful method of accomplishing this is given in the section on Production Bonus Plans,—the experiences of a Refrigerator Manufacturer.

LOSS-SHARING

Harvard Knitting Mills

In the plan of the Harvard Knitting Mills is found the uncommon feature of loss-sharing. When the close of the fiscal year shows a net loss on the books of the company, the deficit is divided according to the fifty-fifty plan, and the employees' share is taken from

the fund which has been credited to the employees and allowed to remain in the business. When this fund is exhausted, future profits are obligated to meet them, the liability of the employees being limited to the amount due them and held by the company, or the profit-shares which may be credited to them in the future.

Dutchess Bleachery

The Dutchess Bleachery industrial partnership plan provides for losses as well as for the sharing of profits. This is accomplished by two sinking funds, intended to guarantee capital a minimum return of 6 per cent during periods when this is not earned.

INDUSTRIAL PARTNERSHIP PLAN

Dutchess Bleachery, Wappinger Falls, New York

Partnership

Three things constitute a partnership—first, a just and proportionate share of the profits and losses of the business; second, an appropriate share in the management; third, a knowledge of the affairs of the company.

Profit-Sharing

Our profit-sharing is a fifty-fifty proposition. The market wage for our industry is paid to labor and a minimum of 6 per cent is paid to capital. After these have been paid together with regular operating expenses, depreciation reserve, taxes, etc., and after the sinking funds have been provided for by setting aside 15 per cent of the net profits for labor and 15 per cent for capital, the remaining net profits are divided 50 per cent for capital and 50 per cent for the operatives, and the latter sum divided in proportion to the amount of each one's pay for the period. Profits, if any, are to be estimated by the Board of Directors each month

and distributed, if possible, not less often than once in every two months.

Sinking Funds

Unemployment Insurance for Labor—Guaranteed Interest to Capital

A true partnership must jointly provide for losses as well as for the sharing of profits. This our plan aims to do by establishing two sinking funds of the amounts indicated in the last paragraph.

These funds are intended to guarantee capital its minimum return of 6 per cent during periods when this shall not have been earned, and to provide unemployment insurance for the operatives, paying half wages when the company is unable to furnish employment. Complete rules and regulations covering the sinking funds are published at the end of this statement.

Industrial Democracy

The Dutchess Bleachery, Inc., has one of the most advanced plans of industrial democracy in America. Starting in August, 1918, with the Board of Operatives only with limited powers, our system of industrial democracy has developed rapidly until it now provides for the representation of capital, management, labor, and the public in the management of the company. This is accomplished through the following boards:

Board of Operatives

In general, the Board of Operatives is intended to represent the interests of the workers in the bleachery. The board is elected annually by secret ballot by and from the operatives in the eleven different departments of the mill.

Board of Management

The Board of Management was set up by the Board of Directors in July, 1919, as a result of a request from

the operatives for more than a merely "advisory" power which the Board of Operatives then enjoyed in reference to matters of mill management, wages, working conditions, etc. The Board of management consists of six members, three of whom are the treasurer, the New York agent and the local manager and three of whom are elected annually by the Board of Operatives from their number, the election taking place at the organization meeting of the newly elected Board of Operatives each year. The Board of Management is authorized to settle and adjust such matters of mill management as may arise, and shall meet upon the call of any two of its members. In case a majority of the board shall fail to agree upon any matter brought before it for determination, the board shall thereupon appoint a seventh member and the decision of the majority of the board so constituted shall be final. Any matter may be appealed, after going through its proper channels, to this Board of Management with its fifty-fifty representation of the operatives and with provision for final arbitration when necessary.

Board of Directors

The Board of Directors of the Dutchess Bleachery, Inc., is elected each year by the stockholders. As at present constituted the Board of Directors is made up of (1) representatives of management and of capital, (2) a representative of the workers in the bleachery, nominated by the Board of Operatives, and (3) a representative of the community. The latter is supposed to bring before the Board of Directors any matters which affect the life of the village or any of its residents. Thus the idea of representative government, democracy in industry, has been kept in mind in the selection of the Board of Directors, in whose hands final control of the company rests under the authorization of the stockholders.

Financial Statements

The final essential in partnership—knowledge of the affairs of the company—is provided for by providing the Board of Operatives with copies of the audited monthly statements of the company. These are kept at the office of the Board of Operatives and may be seen by any operative on request.

Minutes

Further knowledge of the affairs of the company and of the proceedings of the various boards is made available by the interchange of minutes between the boards. The minutes of the Board of Directors are sent to the members of the Board of Management for their information. The minutes of the Board of Operatives are sent to each member of the Board of Management, and the Board of Management's minutes are forwarded to the Board of Operatives. Copies of all Board of Operatives' minutes and minutes of its standing committees are sent to each member of the Board of Operatives by whom they are posted or made freely available for the information of all operatives in each department.

ORGANIZED LABOR

In response to inquiries, the Board of Directors authorizes the statement that the partnership plan is in no way opposed to organized labor.

STOCK IN COMPANY

Opportunity was given in the spring of 1920 to operatives to acquire stock in the company at a low figure and upon easy payments, $10 down and a dollar a week. The Dutchess Bleachery, Inc., is very conservatively capitalized at $1,350,000 entirely represented by twenty-seven thousand shares of stock.

CHANGES IN PLAN, 1922

The following changes in the Dutchess Bleachery plan of industrial partnership were made during 1922:

(A) Division of profits shall be made annually.
(B) Said division shall be made 50 per cent in 6 per cent preferred stock of the Dutchess Bleachery, Inc., and 50 per cent in cash or such other proportion as the board of directors may determine.
(C) In the event of new construction or the purchase of new machinery, cost of the same shall be charged against profits and preferred stock shall be issued to capital and labor in equal parts, allowance being made for value of buildings and equipment which are being replaced.
(D) Net losses for any year shall be charged against subsequent profits before any distribution is made.
(E) Sinking fund for capital's minimum wage to be built up to 6 per cent on its investment before division of profits and to be renewed, as soon as possible, whenever depleted.
(F) After completion of this sinking fund, but before any division of profits, a second sinking fund to be drawn upon by labor in time of un-employment shall be built up to $85,000 and shall be renewed, as soon as possible, whenever depleted.
(G) Both sinking funds shall bear interest at 6 per cent.
(H) Interest on labor's sinking fund may be used in the discretion of the board of operatives for sick benefits, etc.
(I) Interest on capital's sinking fund shall be at the disposition of the Board of Directors.

The Board of Operatives in April, 1922, revised its Constitution and By-Laws with reference to eligibility to vote, also rules covering unemployment and health benefits, profit-sharing, sale of houses, and life insurance, and requiring that no operative shall be eligible for any of above benefits until he or she has been employed twelve consecutive months.

A PROFIT- AND LOSS-SHARING PLAN

A. W. BURRITT COMPANY, BRIDGEPORT, CONNECTICUT

The plan here outlined has been in successful operation for over twenty-five years. A feature of the plan is the provision for sharing in losses.

Three Basic Principles of the Plan

1. That those having the active management of a business should be financially interested therein, and, so nearly as possible, every one in proportion to the relative importance of his services to the business.

2. That for those employees whose duties are such as render it impracticable to measure or standardize their individual effort, but which require, in addition to faithfulness, an exercise of intelligent judgment, there should be some provision whereby they may participate, on an equitable basis, in the results of the business operations.

3. That for those employees whose duties can be measured with a reasonable degree of accuracy, there should be a standardization of their production, and a graded bonus for production in excess of such standard. Any plan of this nature should be so devised as to overcome the inevitable tendency toward individual and group selfishness which, if existent, is certain to destroy cooperation.

The above principles have been applied to the plans which follow:

Plan A—Stock Purchase by Executives

Common stock is sold on terms of easy payment when so desired, to persons occupying important executive positions.

The amount acquirable by each is in proportion to the value of his services to the business.

Plan A Has Been Enlarged to Accomplish the Following Purposes

1. An equitable distinction between investment, purely as such, and creation and effort.

2. To insure invested capital held by those who are not active participants in the management of the business a fair return on the investment and ample security of its interests.

3. To secure for the active management of the business the creators of profits and losses, a full participation in such profits as are in excess of a fair return on investment, as purely such, and a complete participation in losses if there be any.

This Design Is Accomplished as Follows

1. Capital representing investment only, unaccompanied by active participation in the management of the business, shall be restricted to preferred stock.

2. Capital representing investment, accompanied by active service in the business, shall hold all of the common stock.

3. All officers, by virtue of the office they hold, and any other employees of the business who occupy positions of an executive nature or positions which, in the judgment of the directors, are recognizable as constituting necessary factors in the organization, shall have the right to subscribe for common stock to an amount proportionate to the value of their service, 10 per cent of the purchase price to be paid in cash by the subscriber, and the balance by the earnings of the stock.

Profit- and Loss-Sharing Plan

A plan developed for such employees above the grade of common laborers as do not occupy executive or managerial positions, and whose duties do not permit of the application of a plan for standardization and bonus.

Important Features of This Plan

One year or more of service and good standing are a necessary qualification for eligibility to participate.

The risk of loss involved and the reserve from wages made necessary to meet possible loss, discourage participation by the indifferent and careless. Notwithstanding this, since the plan was first placed in operation there has been at all times a participation of over 75 per cent of those eligible.

The resultant saving is much appreciated by the employees participating and, when returned in cash at the

end of each year, together with a profit, creates a genuine interest in the success of the business.

This plan has been in operation for seventeen years and has resulted in an average profit of 6¾ per cent per year on the wages of those affected. It has greatly improved personal relations, developed an admirable spirit of cooperation and enthusiasm and increased permanency of employment; all of which are clearly reflected in a more efficient personnel and reduced costs.

Bonus for Sales Force

This plan, devised exclusively for salesmen in the wholesale lumber department, a comparatively recent development, in which it is possible to measure individual production, to standardize such production and, by means of a carefully balanced and graded system of bonuses, to automatically advance the earnings of every salesmen in direct proportion to what he individually earns for the business.

Object

This plan has been in successful operation for five years.

STANDARDIZATION AND BONUS

Promotion of salesmanship as opposed to mere order-taking. Encouragement of price conserving as opposed to price cutting. Development of a system of remuneration, based on ascertainable individual accomplishment.

Plan

The plan is to establish that certain point of relative parity, and devise a method of remuneration for the various values beyond that point. We arrive at the point of relative parity by estimating the minimum accomplishment which would justify the starting of a salesman trained in our own office, reducing this minimum accomplishment to terms of sales units (each sales unit representing a sale of a car of lumber), and establishing a nominal salary we can afford to pay for this minimum accomplishment."

Application and Operation of Plan

STANDARDIZATION

Accomplishment is standardized by establishing a minimum schedule consisting of a specific number of sales units (each sales unit being a sale of a car of lumber) per year for the first five years of selling service. This schedule increases each year until the end of the fifth year, after which period there is no increase. All sales units are to be at prices fixed by the company.

Salary is standardized by establishing a uniform schedule of nominal salaries, commencing with the minimum during the first year of selling service and increasing slightly each year for a period of five years, after which there is no increase.

Bonuses

Bonuses are paid for accomplishment in excess of the minimum schedule. The bonuses are graded in amount in proportion to the value of the accomplishment for which they are paid. After the first five years of selling service, and after the increase in the schedule of minimum accomplishment and nominal salary increases the bonuses increase in amount, 33⅓ per cent each year for the sixth, seventh and eighth years, resulting in their being doubled the eighth year. Beyond the eighth year there is no further increase in bonus values.

Specific Requirement for Bonus

One Class A for each sales unit of a type producing a profit of..... per cent or more, but in no case less than..... dollars.

Two Class A for each sales unit of a type producing a profit of..... per cent or more, but in no case less than..... dollars.

One Class B for each sales unit of a type producing a profit of..... per cent or more, but less than a Class A type, but in no case less than..... dollars.

One Class C for each sales unit in an individual sale of five or more sales units of the same commodity yielding a profit of..... per cent or more.

One Class C for certain sales units at a price in excess of the average market price current, but producing a profit less than a Class B type.

One Class C for each sales unit during a calendar year, in excess of the aggregate required by the minimum schedule of sales unit accomplishment for that year.

One Class B for each initial sale of one or more sales units to a new prospective regular customer of approved credit.

Bonus Values

Classification		Value 1st 5 years	Value 6th year	Value 7th year	Value 8th year
Class	A.....	$5.00	$6.67	$8.33	$10.00
Class	B.....	3.00	4.00	5.00	6.00
Class	C.....	1.50	2.00	2.50	3.00

PRICES, TERMS AND DETERMINATION OF BONUS

Sale prices, terms of payment and determination of application of bonus, if any, are fixed by the sales management.

The business being of a sharply competitive nature, a considerable portion of the sales are, of necessity, at a price not permitting of bonuses based on price, but such sales, of course, count in bonuses for aggregate.

BONUS CERTIFICATES

Salesman receives from office, as each order is received from him, a certificate of bonus, if he be entitled to one. This certificate is, in effect, a draft on the cashier of the company for the amount of the bonus payable at the end of the year. It is made in duplicate,

the duplicate routing to the accounting department to be entered on the company's books to the credit of the salesman's personal account. At the end of each calendar year he receives a check for the total of his bonuses for the year.

THE PROFIT- AND LOSS-SHARING CONTRACT

This Article of Agreement, made and entered into this..... ..... day of ..... one thousand, nine hundred and..... by and between THE A. W. BURRITT CO., party of the first part, and the signers hereto, all employees of said company, party of the second part, WITNESSETH as follows:

First—It is agreed that the party of the first part and the party of the second part shall share the profits and losses of the business of the A. W. BURRITT CO. so long as they are both parties to this agreement.

Second—The profit shall be ascertained as follows: The inventory of the 1st of February past shall be taken as the starting point, and an inventory shall be taken in the same form on February 1st each year thereafter. From the gross results thus obtained, shall be taken all expenses of every kind, including depreciation of buildings, tools, and machinery, and bad debts; and the results of the above shall be considered the net gain or loss, as the case may be. If the result thus shown shall be gain, the capital actually invested as shown by the inventory at the close of each year shall first draw six per cent (6%) interest; (or in case there is less than that amount, shall draw what net gain there is, in liquidation of its claim) the balance then remaining shall be divided between the party of the first part and the party of the second part in such proportions as the actual capital invested in the business bears to the total wages of the party of the second part for each current year. The total amount coming to the party of the second part shall be divided among its individual members as the year's earning of each bears to their total earnings.

Third—For each current year, one-tenth of the wages of each of the parties of the second part shall be withheld by the party of the first part weekly, and in case there has not been a net loss on the entire business of the year, this reserved money, together with his share in any accrued profit as figured above, shall be paid to each of the parties of the second part on or before March 1st of each succeeding year.

Fourth—In case there should be a net loss made on the business of the year, without figuring any dividend for capital as above provided, this loss shall be divided between the party of the first part and the party of the second part in the same manner as described for dividing profit; but the party of the second

part in no case shall become responsible for losses greater than the amount reserved from his wages.

Fifth—Other employees of THE A. W. BURRITT CO. may become parties to this agreement after this date, on invitation of the party of the first part; but the computation of their share shall be figured only on wages earned after the date of their signature. Any party of the second part may withdraw, either from this contract or from the company's employ, at any time, but the party of the first part holds the right to retain his reserve until the expiration of the current year and if said reserve is held, its owner shall share in profits or losses at the expiration of said current year; but in no case can any party of the second part share in the profits or losses unless his reserve has been retained until the end of the year, except as provided in Article Seventh.

Sixth—The party of the first part can at any time discharge any party of the second part from its employ and require him to withdraw from this contract, but, in such case, said party of the second part shall have the option to withdraw his full reserve or to leave it until the end of the year to share in results as above described.

Seventh—It is further agreed by the party of the first part that no party of the second part shall be temporarily retired from work so long as the party of the first part has any work of the kind said party of the second part is accustomed to do; but if there should be a shortage of work in the hands of the party of the first part, it shall reduces the hours of work and so divide the work between the parties of the second part. If at any time any party of the second part should become sick or incapacitated to perform his duties, and has the certificate of a reputable physician that he is so incapacitated, after two weeks' duration of said sickness, said party can draw on his reserve wages at a rate not greater than six dollars ($6.00) per week, without affecting his interests in the profits at the end of the year. Further, if any party of the second part should become injured on account of any accident while in the employ of the party of the first part, said party of the first part shall, at its own expense, provide him with a competent physician or surgeon, after application is made to it stating that such services are needed.

Eighth—If any of the parties of the second part wish to inquire into the accuracy of the annual report made to them by the party of the first part, the books of the party of the first part shall be opened for inspection by any reputable public accountant employed by the party of the second part, provided such accountant will agree to confine his report to the statement that the company's report was or was not correct, and if not correct, shall fully define its error.

Ninth—It is agreed that all differences and disputes resulting from the operation of this contract shall be settled by arbitration.

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HOW "LOSS-SHARING" WORKS

The A. W. Burritt Company, Bridgeport, Connecticut

This company has had a successful profit-sharing experience of something over twenty years. The plan is known as "profit- and loss-sharing," and is the only one of its kind in operation. It provides that employees shall share in losses as well as in profits.

This is accomplished by an arrangement under which employees deposit 10 per cent of their wages, weekly, to be held in a reserve fund, to meet any losses. If at the end of the year, any losses have been incurred, the losses are divided equally between the company and the employees, to the extent of the 10 per cent accumulated reserve. If there are profits, 6 per cent is deducted as a fair return upon the investment, all the excess profits being divided between the company and the employees in the ratio which the total investment holds to the total payroll.

The Burritt Company reports that general industrial conditions in 1920 in no way interferred with the successful operation of its plan, and that the plan lost none of its effectiveness during the year. Further, it reports that it regards its experience as having been successful from the very start many years ago, including 1920.

Mr. Burritt, in describing the operation of the plan during 1920, states as follows:

> We have been entirely satisfied with the operation of our plans and contemplate no change. If the prices continue to drop, maybe we will gain a new experience during the coming year, but up to date it has all been one way. In fact, I might say that particularly in our better grade of help, we have had very little trouble during the war period. Those people whom we have been interested in and desired to keep have created practically no trouble at all.

DISSATISFACTION WHEN PROFITS ARE SMALL

H. O. Wilbur & Sons, Philadelphia, Pennsylvania

This company has tried a bonus plan paying a percentage of the annual wages to all employees whose names were on the books at the close of the year. This bonus is paid in part in July and the remainder in December, prior to Christmas, the amount at the end of the year being larger than the payment in July. These payments average 20 per cent for a period of three years.

"While these payments were appreciated by the employees," states Dr. B. K. Wilbur, Vice-President of H. O. Wilbur & Sons, Inc., "We do not believe that this is a satisfactory method of giving the employees a share in the profits of the business, in fact it is often spent before received. A bonus plan does not encourage saving. It very soon is looked upon as a right of the employees rather than a voluntary payment to them, and in unprofitable years when the bonus must be reduced or abolished, dissatisfaction is sure to result.

"The bonus payments, in our experience, are never counted a part of the wages by employees and therefore do not satisfy the desire for wage advance. Unreasonable as it may seem, yet it is true that the bonus payment, while regarded as a right of the employee is not regarded in any sense as an increase in wages. This condition is unsatisfactory to both employer and employee. We believe that a plan which provides for payment for individual effort combined with a monthly or bi-monthly division of one-half or more of amounts saved by employees over fixed standards is the ideal method of wages and reward. Such a plan, however, we have not succeeded in applying practically."

WHY PROFIT-SHARING PLANS FAIL

The following is a summary of reasons generally given for the failure of profit-sharing plans:

1. Failure of the employees to grasp the significance of the plan.
2. Dissatisfaction when profits are small.
3. The employees count on the profit-sharing payments and make use of them in advance.
4. Preference of employees to have their wages increased instead of receiving a bonus.
5. The sale of stock acquired by profit-sharing, to outsiders.
6. The uncertain nature of profit-sharing induces bad habits of speculation.
7. Loss of profit-shares in loss-sharing plans turns the employee against such plans; failure or loss in stock investments also turn the employee against plan and against saving.
8. The efforts of the employer are not appreciated by the employees, or the employees are suspicious of the employer, or the plan, or the statement of profits.
9. The employees insist on joining a union and presenting demands for higher wages.

WHY ONE PLAN FAILED

The Wayne Knitting Mills, Fort Wayne, Indiana

The Wayne Knitting Mills of Fort Wayne, Indiana, suffered an experience during 1920, which demonstrates the evils that are likely to arise if profit-sharing payments are permitted to become regarded as simply a part of the employee's regular wages. Its experience finally led to the abandonment of its profit-sharing plan.

For some years this establishment had been operated under an arrangement whereby a fixed rate of dividends on stock was established, and all excess earnings were divided, on a pre-established basis, between stock-holders and employees. The plan had been generally regarded as successful, the management had found it particularly effective in reducing the labor turnover, and the general impression was that the men received larger earnings than the employees of any other plant in the city.

The plant operates twelve departments. The knitting and boarding departments were unionized, the other departments were unorganized. The management had recognized the unions, and had dealt directly with them for the past seventeen years, and considered doing so a successful policy. The unions had accepted profit-sharing, and their members had participated in it, although there was a feeling that the labor leaders accepted it with reluctance.

In the summer of 1920, the unions positively declined the further acceptance of profit-sharing and insisted that an amount equal to the past year's profit-sharing distribution should be placed in the pay envelope in the form of straight wages. This request was conceded by the management for a six-months' period, ending December 1st.

This meant adding 25 per cent to the pay envelopes of not only all the knitters, but also to the payroll of employees in all the other departments, since it was felt by the management that all employees should be treated alike, in this regard.

On December 1st, it was found impossible to continue longer this policy, and the profit-sharing payment was withdrawn from the pay envelope. The unions construed this as a reduction of wages, and refused to accept it. The result is that the knitting departments are now entirely closed, operations in them having been suspended.

This incident seems to illustrate clearly that if profit-sharing is to prove successful, the profit payments must not be permitted to become regarded simply as a part of the wage payment, to be regularly expected and counted on, but that they must be regarded as a *special* payment, over and above the *regular* wages, and *contingent* entirely upon the success and earnings of the business.

AN "EFFICIENCY DIVIDEND" PLAN[1]

VIRGINIA RAILWAY AND POWER COMPANY, RICHMOND, VIRGINIA

In an effort to reduce the losses due to "imperfect fare collections," injuries and damages caused by accidents, many of which could have been avoided by the use of reasonable care, waste of materials and electricity (whether by burning lamps in the day time or running machinery when not in use), passing by passengers at street corners, not keeping a careful watch on the abuses of the transfer privileges, and other causes, the Virginia Railway and Power Company, Richmond, Virginia, put into operation a profit-sharing plan, a feature of which was the *efficiency dividend,* defined by the company as follows:

Profit-sharing must not be confused with the term "bonus." A bonus is an outright gift, whereas, profit-sharing is an "efficiency dividend"—money which you have helped to earn and to save by careful collection of fares, safe operation, and proper economy in the use of materials. The dollars thus gained by your efficiency are divided with you under the profit-sharing plan. The old proverb, "a dollar saved is a dollar gained," is changed to read, "Every dollar saved is divided with me."

[1] This plan was withdrawn in January, 1921.

To this end the General Safety Committee is reorganizing and will make every effort to turn expenses for injuries and damage into earnings for distribution, and if every man will cooperate with that committee, and in every other way whereby a dollar can be saved, the earnings for the next six months' period should increase the present 6 per cent "efficiency dividend" to more than 10 per cent, as figured out above.

We publish below the announcement of the plan.

ANNOUNCEMENT

To Classified Employees of the Virginia Railway and Power Company (All Divisions)

Desiring to deal both justly and liberally with its employees, the company hereby makes effective from August 1, 1920, until further notice, the following profit-sharing plan through an increase in wages, based upon a division of the net profits for the year ended June 30, 1920, after paying from the gross earnings:

Operating Expenses,
Interest on bonds and other debts,
Sinking fund charges and taxes,
Discount on bonds and uncollectable accounts, and
Reserving depreciation (6 per cent on gross revenue),
Six per cent on preferred stock, and
Three per cent on common stock.

The amount to be made the basis for increase of wages on a division (on a 50-50 basis) between the company and all classified employees, superintendents and below, who have been in the service for the past six months, was $195,016. This will justify an increase of 6 per cent. Therefore, 6 per cent will be added each pay day to the wages or salary of each classified employee who has been in the service six months at the time each payroll is made up, effective from August 1, 1920, during the following six months.

For each six months' period hereafter ending December 31st and June 30th, there will be an ascertainment of the profits to be made the basis of the wages for the following period of six months. The statements of the company will be subject to verification by a certified public accountant, if so desired.

Through the profit-sharing plan hereby made effective, employees of the company are made "partners" and it is the sincere hope and belief of the management that team-work will win just reward for all concerned and insure to the public the high-class of service it deserves.

FIFTY-FIFTY PLAN THAT WAS ABANDONED

THE JOHN N. WILLYS PLAN

Among the attempts to divide the profits of the company between employees and company according to a fifty-fifty basis is the John N. Willys profit-sharing plan, in effect for several years at the Willys-Overland Company Toledo Plant, and later abandoned. The plan as outlined by Mr. Willys was:

> That after permanent capital and permanent labor have each been justly compensated, having due regard to the cost of each (the cost of capital and the cost of living), then the additional profits accruing from the joint employment of permanent capital and permanent labor shall be divided equally between them—— fifty-fifty.

THE 50-50 PLAN OF THE WILLYS-OVERLAND COMPANY

In its announcement to employees the company made it clear that in the development and operation of the plan no new legal relation between the company and its employees was created, and that the company did not assume any additional legal liabilities, "nor do the employees sacrifice or imperil any of their rights."

METHOD OF ADMINISTRATION

A committee called the 50-50 Division and composed of ten members, five of whom were selected from the factory employees who submitted the best written suggestions on profit-sharing plans was organized soon after the plan was announced. These ten members hold

office for one year and their successors are selected annually, or when vacancies occur, by the first-vice-president, on the basis of experience or value of suggestions.

The plan is administered by the 50-50 Division in accordance with regulations recommended by the division and approved by the company. The five essential features of the plan and the regulations as applied to each are as follows:

Definition of permanent capital.
Definition of permanent labor.
Just compensation of permanent capital.
Periods for profit distribution.
Basis of distribution of profits.

Permanent Capital

1. Permanent capital is the net book value of the assets of the company, not including good will, patents, trade-marks, etc.

2. Statement of December 31, 1918, shows the permanent capital of the Willys-Overland Company to be the sum of $79,668,232.92 on that date.

Permanent Labor

1. Every employee of the Willys-Overland Company, Toledo and Elyria, Ohio, of Willys-Overland, Inc., of the Willys-Morrow Co., Elmira, New York, and of the Enterprise Tool Co., of Cleveland, Ohio, is eligible to participate in profit-sharing under the rules of the 50-50 plan.

2. Every employee, after six months of continuous service, shall become a profit-sharer and be classed as "permanent labor." In the first distribution thereafter he shall receive a share of the profits which have accumulated from the date of his employment to the close of the period which is being distributed.

3. Employee's record of continuous service shall not be affected by absence on account of sickness or injury,

or if it is by the consent of employer. Absence from work for two consecutive days or three times in thirty days without report and acceptable excuse shall automatically remove an employee's name from the continuous service record.

4. If an employee leaves the service of the company after being qualified for profit-sharing by six months' continuous service, his record shall be held open until the next distribution, when a final profit-sharing check shall be mailed to his address.

5. If an employee is discharged, the 50-50 Division shall determine distribution of profits upon the merits of the case.

6. In event of an employee's death, the six months' eligibility clause shall be waived and the 50-50 Division shall determine distribution of profit and to whom it shall be paid.

Just Compensation of Permanent Capital

In arriving at the "just compensation" to permanent capital, as related to our 50-50 profit-sharing distribution, there must be established—

1. An average rate for depreciation, based on general standard accounting practice, subject to approval of certified public accountants;

2. A reserve for contingencies or "rainy-day fund," at an estimated rate;

3. A just return to invested capital, or cost of securing the necessary capital for investment in the industry.

Periods for Profit Distribution

1. Five distributions of profit to employees shall be made each year. The first four of these shall be based on a conservative book inventory and the fifth on the regular annual inventory:

No. 1. Distribution in April for January, February and March.

No. 2. Distribution in July for April, May and June.

No. 3. Distribution in October, for July, August and September.

No. 4. Distribution on December 24, for October and November.

No. 5. Distribution in March of the following year to include December, the difference between book and annual inventories, and other adjustments.

2. Distributions 1, 2, 3 and 5 shall be made as early in April, July, October and March as the necessary records can be completed.

3. Separate profit-sharing checks shall be distributed.

Basis of Distribution

1. In distributing profits, no salary or wage shall be considered as in excess of $5,000 per annum.

2. As stated in paragraph (2) of permanent labor, employees shall receive payment of profits in the first distribution after the completion of their first six months of service with the company. During the six months, a share of profits shall be credited to each employee's record, beginning with the date of his employment.

Distribution of profits to permanent labor shall be on the following basis:

3. If profits to be distributed in periods Nos. 1, 2, 3 and 4 amount to 6 per cent or more, but less than 8 per cent, on the total of wages paid in the period to employees whose names are on the last payroll of the period, 6 per cent of the wages paid shall be credited to each employee's record, except that no employee's share shall be less than four cents per hour for each hour worked in the period. If the amount is in excess of 6 per cent, this excess shall be transferred to distribution No. 5.

4. If profits to be distributed are 8 per cent or more, but less than 10 per cent, 8 per cent shall be credited, as indicated in preceding paragraph, no employee's share to be less than four and a half cents per hour for each hour worked in the period. The excess, if any, above 8 per cent, shall be transferred to distribution No. 5.

5. If profits to be distributed are 10 per cent or more on total wages paid in the period, 10 per cent shall be credited, as indicated in previous paragraph, no employee's share to be less than five cents per hour for each hour worked in the period. The excess, if any, above 10 per cent shall be transferred to distribution No. 5.

6. If profits in any one period do not equal 6 per cent on the total of wages paid in the period, no payment shall be made for this period (except under paragraph (4) of permanent labor), but this amount of profit shall be transferred and added to the profit of the following period.

7. Distribution No. 5 shall be based upon profits to be distributed for December, adjustment of books and annual inventories and accumulation of excesses from previous periods. It shall be credited on the basis of the percentage of its total amount to the total amount of wages paid in the year to employees who work in December.

8. Length of service with the company shall be rewarded by giving the employee an addition of 1 per cent per month to his share of No. 5 distribution for each month of continuous service in excess of twelve months after January 1, 1919, until a maximum of 50 per cent is reached. This maximum shall thereafter be added to such employee's share of each No. 5 distribution.

9. In computing hours worked for employees on a yearly, monthly or weekly salary, the number of hours that the position requires shall be taken as the uniform basis. Fluctuations in time actually worked by such employees shall not be considered.

CHAPTER XIII

STOCK PARTICIPATION PLANS

EMPLOYEES' PARTICIPATION PLANS[1]

Many employers are experimenting with stock participation in the hope that thereby will be secured the active interest of their employee-stockholders through creating a sense of proprietorship in the business. Also stock participation is often urged in place of the ordinary profit-sharing schemes because in the former the possibility of "loss-sharing" is added, whereas it has been found practically impossible to attach loss-sharing features to the common profit-sharing plans. It is urged in some quarters that the employee will be encouraged to work with much greater zeal if he foresees the possible loss of dividends than if he sees merely extra profits with no chance of losses.

There are two general classes of stock participation plans, those that require payments out of wages for the stock (whether paid for in full or not,) and those that give the stock to the employee either directly as a bonus, or take such bonus money as is not a real part of wages in payment for stock.

Unfortunately the former type is difficult to work successfully unless it is presented as an investment plan. Many concerns with such plans limit them to salaried officials who have larger incomes and can be presumed to be able to justify taking this financial risk with a small part of the income if they so choose. They also

[1] Specially prepared by Industrial Relations, Bloomfield's Labor Digest. Copyrighted 1922 by Meyer Bloomfield and Daniel Bloomfield. All rights strictly reserved.

may be presumed to understand better the nature of the risk they are taking.

Make Your Plan Clear

When an employer sells or gives stock of the company to his employees, the action should be clear-cut. There should be no attempt to conceal the nature of the transaction. To anyone acquainted with financial matters the distinction between putting money in a business and investing it for safety is too obvious to require definition. But to the ordinary employee this distinction not only is obscure but often is beyond comprehension.

When the employer puts his stock participation scheme before his employees as a thrift plan or investment, therefore, there is every probability that it will be taken at its face value until the real nature of the risk is called forcibly to the attention of the employees by untoward conditions. In creating the impression that a stock participation plan is in the nature of a thrift scheme the employer is not only assuming a grave moral responsibility for the savings of his employees but he is doing an act of very doubtful expediency.

One experience such as the employee-stockholders of a certain large industrial company, for instance, have had since the war in the collapse of the value of their investments in a financial crisis, nullifies the educational value of encouragement of real investments of savings in a hundred sound thrift plans and shakes the confidence of people of slender means all over the country in investing their savings. A multiplication of such experience would surely tend to drive the pennies of the poor back into their stockings.

There is every reason to believe that plans, properly presented in their true light, would prove of incalculable service toward the realization of the ideal of cooperation between employers and employees and also of immense

educational value in teaching the fundamentals of industrial economics.

Taking Part in the Enterprise

It is conceivable that if stock participation plans were presented in such a light that their failures would serve as object lessons of the financial risks of business instead of occurrences to be apologized for, and their successes always explained as periods when surpluses must be built up for the "seven lean years to come" the teaching would be normal and wholesome. But apart from such possibilities there is the immediate advantage of having employees feel that they are taking a real part in the proprietorship of the company and are in a position to participate in its successes. Wherever this spirit is implanted in a body of employees it is a poor manager indeed who cannot realize at least a fair proportion of successful years.

Do Not Mix Stock and Bonus

Provided the dividends on the stock are not mixed with and concealed by bonuses and other gifts from the company, so that a true measure of the success of the concern is apparent, this point can be brought very clearly before the employees. If bonuses are also given they should be kept quite distinct in order to allow the plan to tell its complete story to the stockholders. This applies in the case of salaried officials as well as all ranks of employees, for a lesson to be fully understood must be presented in the clearest form possible and not be beclouded by side issues.

When the Employee Leaves

A complicated question always arises with regard to repurchasing the stock or refunding partial payments in case the employee leaves the service. When the stock

has been given outright as is done at the Dennison Manufacturing Company, usually a special class of stock for employees is created which has no market value. In such cases either cash is given for the stock or else it is replaced at an agreed ratio by another class of stock which is marketable, when the holder leaves the service. When marketable issues on the other hand are distributed either gratuitiously or for partial or complete payments it is merely a question of expediency whether it shall be repurchased by the company or not. If the employee has received his shares with full understanding that they represent an investment in a business venture there would seem to attach to the plan no moral obligation on the employer to buy back the stock at par or at the original price if the market value has declined since the purchase. Certainly the company seldom will be called upon to repurchase at the original price if the market value has risen.

The payment of a bonus to employees who have purchased or have been given marketable stock, and who hold it during the year, is sometimes thought to be necessary in order to induce the employees to continue to hold it. Strangely enough experience on this point indicates that employees more often sell in panic if there is a sudden drop in market value in order to protect their savings from further shrinkage, than sell on a rising market to realize profits. This merely proves more pointedly that employees usually consider stock purchase as an investment of savings.

Analysis of the Plans

For the purposes of this study, special information of about eighty-three plans for selling stock to employees has been secured. These have been classified according to the basis on which the employees secured the stock, whether at market value, par value, a discount from the prevailing rates, or as a gift.

Type I.—Stock Sold at Market Value

Twenty-one plans have been analyzed in which companies sell stock to their employees at market value. Only two of them were started before 1918. In every case but one, the railroads which have stock-selling schemes disposed of shares on this basis. The New York Central Railroad Company, for instance, in offering its employees an opportunity to buy stock on easy terms, states that "inasmuch as all the stock issued is in the hands of the public, the company has none for sale, and will arrange for the purchase of the stock, ordered under the plan, in the open market."

The various schemes on the whole follow similar lines. Usually an employee may participate regardless of his position, but a short period of service is not infrequently required. The Hydraulic Steel Company of Cleveland stipulates three months, the Hilo Varnish Company of Brooklyn, five years. Three to six months is more common than any longer time. The Hydraulic Steel Company is unique in limiting the stock-buying privilege to American citizens or aliens who have taken out first papers.

Some companies extend it according to the "judgment of the management" (Standard Parts Company, Cleveland) or to "selected employees" (Thomas Devlin Manufacturing Company, Burlington, N.J.). Proctor & Gamble covers, in the more liberal of its stock-selling plans, only those receiving pay under $2,000 a year and excludes salesmen and traveling representatives. Common stock is the usual type offered and a definite block of several thousand shares is often set aside for the purpose.

In these cases in which stock is sold at market value, a chief point made to the employees is the fact that they can pay for their purchases on the installment plan. A small initial payment may or may not

be required. Thereafter small weekly or monthly deductions from pay are made until the stock is paid for. One dollar per share per month is a figure often fixed. Interest is charged on unpaid balances and dividends credited against them, while the stock generally remains in the hands of the company until it is entirely paid for.

The largest amount of stock which employees may buy under these plans is usually prescribed. A number of shares may be fixed, varying according to wages or some such specification may be made as that the amount purchased shall not be greater than the annual salary. The limits permitted may be very low, as two to ten shares according to wages.

Guarantees of Future Value

Guarantees of future value are seldom found. The Gulf Coast Lines guarantee the maintenance of 6 per cent dividends while the stock is being paid for, the Thomas Devlin Company guarantees value during the same period, and Procter & Gamble offers to return the money paid in, plus 6 per cent interest if the stock falls below cost within six years from date of purchase. On the other hand, the New York Central expressly disclaims any guarantee as to future dividends or value.

Arising from the necessity of keeping the control of the company in approved hands comes an occasional provision such as is found in the plan of the Fuller & Smith advertising agency of Cleveland, that an employee wishing to sell his stock must allow the company an option on its purchase at the cost to him plus 10 per cent.

Elaborate provisos are included in the plans as to the return of payments, if the employee leaves the company, dies, or wishes to discontinue buying shares before his purchase is entirely paid for. The clauses

arrange for the return of all money paid in with a fair amount of interest—4 to 6 per cent.

Bonuses on Stock Purchases

Some companies attempt to increase the desire of their employees to buy stock by giving special financial inducements over and above the dividends. Procter & Gamble, in their scheme for semi-skilled employees, make one of the most liberal of such offers. It credits a profit-sharing dividend of 10 per cent of wages if the employee has had one year of service rising gradually to 20 per cent for ten years' service toward the cost of the stock. More often the bonus takes some such form as with the Hercules Powder Company which gives the employee who remains with the company, and holds his stock five years, $4 a share a year. The Trumbull Steel Company donates a lump sum of $7 per share to employees holding their shares for five years.

The following "copartnership plan" of the Studebaker Corporation is typical of the more liberal of the methods by which stock is sold to employees at market value.

Studebaker Copartnership Plan

In addition to the plans under which regular anniversary checks, annual vacations, pensions and life insurance, the directors offer this opportunity whereby employees may become copartners in the business, and share to a still greater extent, as stockholders, in the profits resulting from its operations. The directors believe that a large increase in the number of employee-stockholders will develop the relation of copartnership in its broadest sense.

The plan is as follows:

1. Continuous service is necessary to entitle employees to purchase stock of the corporation under the liberal terms of this plan, although absence of thirty

days or less due to sickness, vacations, suspension of operations, or leave of absence will not be regarded as interruptions of continuous service. Absences without leave, aggregating six full working days or more in employee's anniversary year, will operate as a rupture of continuous service. Employees who have been absent in the war service will not, thereby, affect their continuous service record.

2. Employees who have been in the service of the corporation for three months or more may have common or preferred stock purchased annually for them by the corporation for their account, in an amount not exceeding $300 market value of the stock at the time of the purchase, and in the aggregate not exceeding five shares of stock, but in neither case to exceed 20 per cent of their annual rate of earnings.

3. Applications for purchase of stock must be accompanied by an initial payment of 10 per cent of the estimated purchase price, and the remaining 40 per cent thereof, which is payable by employees, must be paid in four years in installments of one-fifteenth of the amount every three months after the date of purchase.

4. The corporation will fully absorb the remaining 50 per cent of the cost of the stock (provided employees keep up their payments and remain in its service continuously for four years) by crediting employees' accounts every three months with one-sixteenth of its half of the cost of stock purchased.

5. The following table (which for simplicity excludes interest charges and dividend credits) shows an example of how payments by employees and credits by the corporation will be made, assuming an employee bought one share of common stock on September 1, 1920, at a cost of $100 per share.

(On a percentage basis this table will show the amount of quarterly payment and quarterly credit for a share of stock at any market price.)

Dates of Payments and of Credits	50 Per Cent Payable by Employee $50 Total			50 Per Cent Payable by Corporation $50 Total		
	Per cent	Amount	Total	Per cent	Amount	Total
Sept. 1, 1920	10	$10.00	.....	.....	.....	.....
Dec. 1, 1920	1.15th	2.67	$12.67	1.16th	3.13	.....
Mar. 1. 1921	1.15th	2.67	15.34	1.16th	3.13	$6.26
June 1, 1921	1.15th	2.67	18.01	1.16th	3.13	9.39
Sept. 1, 1921	1.15th	2.67	20.68	1.16th	3.13	12.52
Dec. 1, 1921	1.15th	2.67	23.35	1.16th	3.13	15.65
Mar. 1, 1922	1.15th	2.67	26.02	1.16th	3.13	18.78
June 1, 1922	1.15th	2.67	28.69	1.16th	3.13	21.91
Sept. 1, 1922	1.15th	2.67	31.36	1.16th	3.13	25.04
Dec. 1, 1922	1.15th	2.67	34.03	1.16th	3.13	28.17
Mar. 1, 1923	1.15th	2.67	36.70	1.16th	3.13	31.30
June 1, 1923	1.15th	2.67	39.37	1.16th	3.13	34.43
Sept. 1, 1923	1.15th	2.67	42.04	1.16th	3.13	37.56
Dec. 1, 1923	1.15th	2.67	44.71	1.16th	3.13	40 69
Mar. 1, 1924	1.15th	2.67	47.38	1.16th	3.13	43.82
June 1, 1924	1.15th	2.62	50.00	1.16th	3.13	46.95
Sept. 1, 1924	.....	.....	.....	1.16th	3.05	50.00
Total	.....	.....	$50.00	.....	.....	$50.00

6. From the above table it will be seen that should an employee withdraw from this plan on September 1, 1922, after two years participation, he would have paid $31.36, and his credit from the corporation would be $25.04, making a total of $56.40 against the original cost of the stock, viz., $100.00, leaving an unpaid balance of $43.60. He could pay this balance and receive his stock or, if he so desired, he could order his stock sold at the then prevailing market price and receive cash for the balance to his credit. If, for example, the stock was sold for $110.00 per share, he would receive $66.40, which would be the $31.36 he had paid, plus $35.04, consisting of $25.04 in credits from the corporation, and $10 in profit from the sale of the stock.

7. All stock purchased under this plan will be charged to employees' accounts at cost, and interest will be charged quarterly at the rate of 6 per cent per year on the unpaid balance of the purchase price, after deducting payments by employees, and credits by the corporation. All cash dividends (and stock dividends paid on the common stock) will be credited to the accounts of employees and the excess of dividend credits over interest charges will act as a reduction in the amount of the final payments to be made by employees in the last year.

8. Stock certificates purchased for the account of employees will be held by the corporation in its name until the expiration of the fourth year when, if payments are completed, they will be delivered to employees.

9. Fractional shares will not be purchased for employees or delivered to them upon settlement of their accounts.

10. Employees will not be allowed to assign or transfer their rights to stock undelivered under this plan, which rights are personal and contingent upon continuous service.

11. As participation in this plan is voluntary and in no way compulsory, employees may, at any time, withdraw from participation, in which event the credits by the corporation will cease as of the quarterly date preceding withdrawal, and will be forfeited altogether if the withdrawal is made inside of six months from the date stock was purchased. Employees who withdraw within six months shall receive the actual amount paid in by them, without deductions or additions. Employees who withdraw after six months may either (1) pay the balance due on the purchase price of their stock and receive stock certificate, or (2) authorize the sale of stock held for them at the prevailing market price, and receive in cash the balance due them, if any, consisting of the difference between the original cost of the stock, plus interest charges, and the payments by employees, credits by the corporation, dividends, and sales proceeds of their stock. Employees withdrawing from the plan may not renew participation within one year,

12. Employees who resign or are dismissed, or who fail to maintain their installment payments when due, will automatically be withdrawn from the plan on the same basis as above provided for voluntary withdrawal.

13. In the event of the death of a participating employee, his heirs or legal representatives may pay the balance due on his stock, either in full or in installments, and receive stock certificates, or may authorize its sale on the terms herein provided for voluntary withdrawals.

14. Should this plan be permanently discontinued as of December 31, 1921, uncompleted stock purchase transactions then outstanding may be completed by employees under the above terms.

Type II.—Stock Sold at Par or, Type III.—At a Discount

In a greater number of plans, however, the stock is sold to employees at par value or at a discount. As sales at par frequently represent a discount from the market price, the two types are closely allied and will be considered together. Information on forty-five such plans was received in the course of this investigation, only seven of which were started prior to 1918.

Some of the most extensive stock-selling plans fall into this group. The American Telephone and Telegraph Company sold, beginning in 1916, 279,281 shares of stock to 63,480 employees, under its first two plans at a little below the market value. Its third stock purchase scheme, in May, 1921, offered a new issue at par. This company did not pay any sort of bonus. The Goodyear Tire and Rubber Company stated in June, 1920, that nearly 17,000 employees held $11,900,000 of company stock. It offered a bonus of $3 a share for five years to employees, over and above dividends on its first two issues of preferred stock.

The United States Steel Corporation began selling stock to its employees in 1903, and was a pioneer in

undertakings of the sort. According to the Commercial and Financial Chronicle, up to 1921, 685,231 shares of preferred stock were sold to employees, their aggregate investment being $91,491,842. Many companies have followed the United States Steel Company also in paying bonuses for stock retention, this corporation giving $5 a share annually for five years. It has always offered its stock to employees at a few points below the market price.

In selling employees "non-voting debenture stock" the Commonwealth Edison Company of Chicago and the E. I. du Pont de Nemours Company have made novel departures. But on the whole the features of this group of plans, in terms of payment, guarantees and financial aid by employees, closely resemble the stock-selling plans at which shares are sold at market value.

Following is the 1920 announcement of the United States Steel Corporation together with that of the W. H. McElwain Company in which stock is offered at par under carefully worked out conditions.

United States Steel Corporation Plan

TO THE OFFICERS AND EMPLOYEES OF THE UNITED STATES STEEL CORPORATION AND OF ITS SUBSIDIARY COMPANIES:

The corporation again offers to those now actually in the employ of the corporation, or any of its subsidiaries, the opportunity to subscribe for shares of its common stock, not exceeding an aggregate total of sixty thousand shares, under the following terms and conditions:

First. All subscriptions shall be made upon the express condition and agreement that all questions concerning the said subscriptions, and the allotments and interests thereunder, shall be decided by the Finance Committee of the United States Steel Corporation in its discretion and such decision shall be final and conclusive upon all parties.

Second. Subscriptions shall be for one or more shares of common stock at the subscription price $106 per share.

Third. The following table shows the maximum number of shares which may be subscribed for by employees whose salaries or wages are within the respective limits stated, but employees at their option may subscribe for less than such maximum number of shares.

Subscriptions to Common Stock

Employees receiving annual salaries of:	May subscribe for a maximum number of:
$795.00 or less	1 share
795.01 to $1,766.66	2 shares
1,766.67 to 2,473.33	3 shares
2,473.34 to 3,975.00	4 shares
3,975.01 to 4,858.33	5 shares
4,858.34 to 6,890.00	6 shares
6,890.01 to 7,950.00	7 shares
7,950.01 to 9,010.00	8 shares
9,010.01 to 12,587.50	9 shares
12,587.51 to 13,912.50	10 shares
13,912.51 to 15,237.50	11 shares
15,237.51 to 16,562.50	12 shares
16,562.51 to 17,887.50	13 shares
17,887.51 to 19,212.50	14 shares
19,212.51 to 32,860.00	15 shares

Payment for Stock

Fourth. Payment of subscriptions shall be in monthly installments to be deducted from the salary or wages of the subscriber The first deduction will be made from April salary or wages. No installment shall be less than $2 per share and shall not exceed one-quarter of any one month's salary or wages. Installments exceeding the minimum must be in even dollars. Payment for the stock should be completed within three years. Interest at 5 per cent per annum will be charged on deferred payments.

Dividends

Fifth. Until payment of the subscription has been completed any dividends paid on the stock subscribed for will be credited to the account of the subscriber as part of his payment. After the stock is issued to the subscriber, future dividends will go direct to him.

Cancellations—Refund of Installments

Sixth. Subscription will be cancelled for the following reasons:

(1) By request of subscriber.
(2) By (a) voluntarily leaving the service, or (b) being discharged for cause, or (c) failing to resume employment when requested. (See Section Eleventh.)
(3) By discontinuing payments without the consent of the corporation for three consecutive months.

The cancellation of a subscription forfeits all interest and benefits which the subscriber would have received if he had continued such subscription. There will then be returned to him the full amount of payments made on the subscription so cancelled with interest at 5 per cent per annum, no credit being given him for dividends or for the special allowance referred to in third paragraph of Section Seventh, and no interest being charged on deferred payments. A subscription may not be cancelled in part.

Special Benefits

Seventh. When the stock is fully paid for, it will be issued in the name of the subscriber. He may sell his certificate, but as an inducement for him to keep it while he remains in the service, the following offer is made, viz. :

If he will keep the stock and in January of each year, for five years, commencing with January, 1921, will exhibit the certificate to the treasurer of his company, together with a statement from a proper official that he has been continuously in the employ of the corporation or of one or another of its subsidiary companies during the preceding year, and has shown a proper interest in its welfare and progress he will for each of such five years receive a cash payment at the rate of $5 a share for each share of common stock.

Subscribers who may not have fully paid their subscriptions by January in any year, will, if their subscriptions are still in force, and they have otherwise fulfilled all the conditions of continuous and faithful service as provided, be credited in their subscription accounts with the foregoing special allowance of $5 per share on their subscriptions for common stock.

Additional Compensation

Eighth. If a subscriber keeps his certificate and remains continuously in the service for five years, the corporation intends that he shall then receive a still further compensation, which cannot now be ascertained or stated, but which will be derived from the following sources, viz. :

The special allowances referred to in Section Seventh, which, after a subscription is fully paid, are forfeited by:

(a) Transfer of certificate from name of a subscriber, whether intentionally or otherwise;
(b) Voluntarily leaving the service, or being discharged for cause, or failing to resume employment when requested (See Section Eleventh)

will be paid by the corporation into a special fund at the end of each year. This fund will be credited with interest at 5 per cent per annum and at the end of the five years' period, the total amount thus accumulated will be divided into as many parts as shall be equal to the number of shares of common stock subscribed for hereunder and then remaining in the hands of subscribers who shall have continued in such employ for the whole five years. The corporation will then by its own final determination in its discretion award to each subscriber whom it shall find deserving thereof as many parts of such accumulated fund as he shall be entitled to on basis of the number of shares then held by him under this plan.

Death or Permanent Disability

Ninth. If a subscriber dies or is permanently disabled while rendering faithful service during such five years' period, payment will be made to his estate or to him, as follows:

(a) If his subscription is fully paid and he has received and not disposed of his certificate of stock, the corporation will pay a sum equal to $5 per share for each of the five years not then expired, and also a prorata amount of the special fund arising from forfeitures, referred to in Section Eighth preceding, which may have accrued at the time of his death or disability.

(b) If his subscription has not been paid in full, the corporation will pay the money theretofore paid in by him on account, together with the dividends paid on the stock subscribed for, the special allowance for the entire five years' period and a prorata share of the amount of the special fund mentioned, less interest at 5 per cent per annum on deferred installments.

(c) If at time of decease or permanent disablement, the subscription has been fully paid but certificate not yet delivered, the corporation will turn over the certificate, as first stated above, together with the additional payments mentioned in paragraph (a) preceding.

Pensioned Employees

A pensioner will not be permitted to subscribe, but any subscriber who is subsequently pensioned may continue payments on his subscription and when fully paid, he will receive the certificate for the stock subscribed for and the payments referred to in paragraph (a) of Section Ninth, provided, however, that as soon as he shall have fully paid his subscription and received his certificate of stock, he will be treated as though permanently disabled and payments will be made to him in accordance with provisions of paragraph (a) Section Ninth.

Beneficiary

Tenth. A subscriber may name in his subscription as beneficiary the person to whom in the event of his death he desires the corporation to pay all amounts, in connection with his subscription, which would otherwise be payable to his estate. By written notice delivered to the treasurer of the company by which he is employed he may substitute another beneficiary. The corporation, upon satisfactory proof of death, will, under the conditions of the subscription pay to such beneficiary all amounts in connection with the subscription which would otherwise be payable to the estate of the subscriber. When the beneficiary has been named the subscriber's estate shall have no claim to any such amounts, unless the beneficiary should die before the subscriber, and in that event payment will be made to the subscriber's estate.

Suspension of Employment

Eleventh. Subscribers whose employment has been suspended by reason of the temporary closing of a plant, and who shall continue ready and willing when required to resume their service, will not be deprived of the special allowance of $5 per share per year during such suspension, although they may have accepted employment during such suspension. As presumptive evidence of willingness to resume employment, the corporation will accept (1) from the holders of fully-paid subscriptions, the exhibition of the original certificate in January of each year, and (2) from the holders of partly-paid subscriptions, the retention by them of their subscription during the preceding year.

The above period of suspension will not be counted as part of the three years limited for the full payment of the subscriptions, and during such suspension monthly payments will not be required, though if so desired by the employee they may be continued.

In case of the death during such suspension of any such subscribing and continuing employee, his estate or his beneficiary will be entitled to the same benefits accruing to his subscription as if he had died while under employment.

Failure to present the original certificate as provided, or the withdrawal of a partly-paid subscription, or the failure to resume employment when requested, will constitute a relinquishment of all benefits referred to in this circular.

If a plant or office is permanently abandoned and a subscriber at such plant or office does not continue in the service at another plant or office of the corporation or a subsidiary company, settlement of his subscription accounts will be made as provided in case of pensioned employees, Section Ninth.

W. H. McElwain Company Plan[1]

Announcement to Employees

William H. McElwain founded this business in 1894 and associated with him as partners a small group of men who had faith in his policies. The partnership was succeeded by a corporation, as the size, extent and complexity of the business made this form of organization necessary. It is impossible to go back to the earlier days of actual partnership. It is possible, however, to develop in the greater institution of today the factors that make the relation of partners the closest relation in business life. These factors we need in every department of the business.

With this need in mind we are giving every employee who has for six months been a member of the McElwain team an opportunity to purchase the second preferred stock of the company—

[1] The company has been merged with the International Shoe Company and plan withdrawn.

to become a joint owner in the McElwain enterprise. He may own an interest in the McElwain factories, the McElwain distributing houses, the McElwain organization, and the McElwain goodwill. He may receive dividends from his financial investment in the business in which he participates. We believe that the employees of the company will welcome this opportunity, and that the response will be general.

What is the stock?

Second preferred stock of W. H. McElwain Company. Par, $50 per share. Regular dividends 6 per cent ($3 per share) annually. Extra dividend limited to 3 per cent ($1.50 per share) annually. In normal times, therefore, the stock pays dividends aggregating 9 per cent ($4.50 per share) each year.

Price $50 per share, plus accrued and unpaid dividends.

The company has a large capital, is conservatively financed, and has never failed in twenty-five years to earn a fair profit. Its first preferred stock pays only 7 per cent and is owned by investors. The stock now offered (second preferred stock) has in the past been owned principally by managers, superintendents, foremen, salesmen and other executives. They continue to own their stock. The management will set aside a block of new stock, exactly similar in every respect, for sale to employees of the company. An employee may subscribe for himself or his immediate family. No other subscriptions will be accepted. The right is reserved to withdraw this offer at any time.

First preferred and second preferred stock have no voting rights except on certain contingencies like a failure to pay dividends on first preferred stock, when both classes become entitled to vote.

The company cannot, of course, agree to buy back its own stock from employees who purchase it. The company will, however, endeavor to assist any employee, who finds it necessary to sell, in finding a customer among other employees.

If you desire to join the group of men and women, over four thousand in number, who own the McElwain business, please fill out and sign the attached application and hand it to the person in your plant who is designated to receive applications, with the amount of money requirred. You will receive a receipt which must be surrendered when the certificate of stock has been prepared and is ready for delivery.

Any employees who wish to purchase stock, but are unable to pay for it in full at once, should talk with their foremen on the subject.

J. FRANKLIN McELWAIN,
For the Board of Directors.

June 21, 1920.

Note—Regular dividends are payable as follows: 1½ per cent (75 cents per share) on the first days of February, May, August and November.

Extra dividend is paid in June of each year. It consists of one-fourth of the net earnings of the fiscal year ended May 31, remaining after the payment of 7 per cent on first preferred stock and 6 per cent on other classes of stock. Such extra dividend must not exceed 3 per cent in any year.

Including regular and extra dividends, 9 per cent has been paid on second preferred stock in every year since the organization of the company, except 1915, when 7½ per cent was paid.

Type IV.—Stock Given to Employees

A much greater diversity of features is found when plans which make a gift of stocks to employees are analyzed. For this study special information was obtained regarding sixteen such plans.

Gifts of stock are generally made as part of a bonus or profit-sharing system or in close relation thereto. The schemes vary from very simple outright donations to complex systems of industrial partnership. Henry A. Dix & Company, manufacturers of house dresses in New York, set aside $100,000 of common stock in April, 1920, to be distributed as an annual bonus to selected managers, department heads and foremen. Ten per cent dividends were guaranteed, and the bonus was paid one-fifth in cash and four-fifths in stock. Another simple plan is that of the E. I. du Pont de Nemours Company, which makes awards in stock for "continuous service, in inventions, unusual ability, industry or loyalty." Class A awards are for especially distinguished service of this nature, Class B for less achievements among employees who have worked for the company two years or more.

The Pittsburgh, Butler and Harmony Consolidated Railway and Power Company is reported to have created a trust fund of $1,000,000 in its common stock, the divi-

dends from which were to be divided equally among its four hundred employees. The voting power of the stock was to remain with the president of the company, but the employees were to be permitted to elect three directors to the board. It was believed that in order to make each man's dividend as large as possible an incentive would be created to keep down the number of employees.

As an illustration of a complex scheme for gifts of stock, the project of the Larkin Soap Company of Buffalo, New York, may be instanced. In July, 1919, this firm announced that its directors would select employees who had "a sustained interest in the business" and had "demonstrated their value" and divide them into groups. On receiving a favorable vote from 90 per cent of their group, they would become eligible to share in the distribution of $10,000,000 of common stock. Each could hold stock to the amount of a tenth of his annual salary times three years less than his years of service with the company. After a 7 per cent dividend on the preferred stock was paid and provision was made for expansion of the company, buying in of common stock and the regular dividend on it, any remaining profits were to be divided equally between the original owners of the business and the employee-stockholders. On leaving the company, except to retire, an employee must, at the option of the firm, sell it his stock for cash, take its 6 per cent six months note for it or exchange it for second preferred stock.

DENNISON MANUFACTURING COMPANY

The Dennison Manufacturing Company has a somewhat similar plan in its "industrial partnership" stock. The following explanation by the company of its system is quoted because of its clear exposition of the underlying philosophy of the plan which represents a ten years' experiment and development.

Dennison Industrial Partnership Plan

The chief motives which led us to reincorporate the Dennison Manufacturing Company in 1911 in the form of an industrial partnership were, first, to provide a better means of distribution of whatever profits there might be in excess of a fair return on capital; second, to make certain that the voting power would always remain in the hands of those intimately acquainted with the company's affairs. From the early days of the company, stock had been offered to employees at a figure below its actual value, but this plan proved insufficient, unsatisfactory and unfair in many ways.

At the time of the change our company had only one kind of stock, which was each year tending more and more to pass out of the hands of those connected with the business. A part of the profits had each year been withheld from dividends in order to provide for the growth of the company, and, therefore, from time to time there had been a distribution of the surplus in the form of stock dividends. The company had passed the stage where the capital invested in it was at greater risk than the normal business risk, and its financing, therefore, required no more than a normal return to capital. Whatever more than this was earned by the organization, neither the needs of the concern nor the demands of justice required to be distributed to the stockholders as such. On the other hand, two considerations pointed to increasing danger in the future. First, the constant spectacle of all fruits of extradordinary efforts on the part of the managers, foremen, or salesmen, being turned over to people who were almost strangers to the company, could only result in a progressive weakening of enthusiasm and loyalty. Second, the steady increase in the proportion of stock held by people unacquainted with the business, pointed to the time when the voting power must inevitably be used for some other purposes besides the permanent good of the company itself. As a measure of safety for the future, then, the form of incorporation was changed.

The common stock was all converted into a first preferred stock, carrying a fixed cumulative dividend, with preference in assets and dividends, but no rights to accretions. The amount of this stock and the rate of dividend, were chosen to represent a fair return on the capital at that time invested in the concern. It was then provided that if there were any profits remaining after these dividends had been fully paid, these profits should be invested in the business and against them issued yearly a stock which we call industrial partnership stock.

Because this industrial partnership stock had been earned by the efforts of the organization, not by the mere investment of capital, it became necessary to determine to whom this stock should be issued. In other words, who were the real profit-earners in the organization? An analysis so thorough as to deal almost individually with cases of more than two thousand employees led us to the conclusion that profits depended almost

solely on such men as sales managers, senior salesmen, department heads, foremen and the like.

The further task then remained of providing means of specifically designating each year who these individuals were. Originally we used as a criterion the amount of pay received by each and their length of service. Eventually the tremendous changes in the value of the dollar, and more especially the irregular application of these changes among various classes of employees, entirely destroyed the salary line as a true dividing line between those of our employees whose effects upon profits were important and appreciable and those whose effects upon our net profits account were remote and heavily conditioned by the policies of the management. Principal employees are now limited to those who have had five years or more of service and whose position with the company requires the exercise of managing ability and control over methods of manufacturing or marketing, such as an executive, department head, principal foreman, chief clerk, branch manager, or principal salesman; or whose work shows the use of a high degree of imagination, tact or business judgement—those qualities upon which we believe the constant earning of profits to depend. To the directors is left the application of this rule but the industrial partnership stockholders may from year to year pass votes further defining the directors' methods of choosing. These men are classed as principal employees and to them the industrial partnership stock is issued, if their combined efforts have earned profits in the previous year. To distinguish the relative profit earning power of each one of the men in this class, it was clear that the relative salary was a fair guide, and the stock is therefore issued to them in proportion to the salary they received the previous year.

In its main outlines this describes the distribution of our profits for the future—a fixed, sufficient, and cumulative dividend for capital, and all profits in excess of that amount each year to the men who earn those profits. Several qualifying provisions safeguarding this or that point can be found in the agreement of association and by-laws.

Since its establishment the results of the industrial partnership plan have been as follows:

	Shares Distributed	Number of Principal Employees
March, 1913	15,122	167
March, 1914	18,604	211
March, 1915	12,779	218
March, 1916	12,884	228
March, 1917	43,752	260
March, 1918	19,015	288
March, 1919	30,740	320
March, 1920	57,363	364

Average cash dividend rate on outstanding industrial partnership stock 10 per cent.

Details of Plan

Before March 15 of each year, the Board of Directors shall set aside as the employees' industrial partnership fund, one-third of the total fund to be distributed as extra remuneration in stock in that year.

DENNISON EMPLOYEE INDUSTRIAL PARTNERSHIP

Every employee of the Dennison Manufacturing Company and its subsidiary companies, who on the first day of any year has completed two years of continuous full-time service with the company, is eighteen years of age or over, and is not participating in the profits of that year upon some other basis, shall become an employee industrial partner, and shall be notified thereof before February 1st of that year.

If any employee industrial partner resigns or is discharged from the employ of the company, his rights as an employee industrial partner shall immediately be suspended. If he subsequently returns to the employ of the company his rights as an employee industrial partner shall be restored as soon as he has completed on the first day of any year since his return, one year of continuous full-time service with the company.

BASIS OF DISTRIBUTION OF THE EMPLOYEES INDUSTRIAL PARTNERSHIP FUND

The employees' industrial partnership fund of any year shall by March 15 of the following year, be distributed among the employees who were employee partners on January 1 of the year for which distribution is made. All such employee industrial partners shall be classified into six groups on the basis of length of accumulated full-time service as indicated in the following table. The individual members of each group who have worked the full year shall each receive a uniform sum which shall bear the ratios to the sums received by the individual members of each of the other groups that are also indicated in the following table:

Term of Full-time Service on Jan. 1 of the year for which distribution is made Group	Index Numbers or "points" indicating relative amounts received by the individual members of each of the several groups
1....Less than 5 yrs.	10 points
2.... 5 yrs. to 10 yrs.	12 points
3....10 yrs. to 15 yrs.	15 points
4....15 yrs. to 20 yrs.	18 points
5....20 yrs. to 25 yrs.	21 points
6....25 yrs. and over	24 points

No employee industrial partner shall participate in the distribution of any year unless he has completed at least six months of full-time service in that year. If he has worked over six months but less than one year, he shall receive a share proportionate to the number of full months worked.

Any employee industrial partner who leaves the employ of the company after six months' service, but before the end of the year, shall be given a certificate indicating the number of months for which he is entitled to share, and his share shall be sent to him at his last known address.

COMPUTATION OF LENGTH OF SERVICE

Length of full-time service shall be computed as follows:

1. Holidays, vacations not exceeding two weeks in one year, temporary absences not exceeding the rate of twelve working days in one year, layoffs of less than one week in duration, and absences of less than one working day shall not be deducted from length of service, but all other absences from work shall be deducted.

2. The service of home workers and such other employees as do not normally work the full standard hours of their particular class of work shall not be counted.

3. Time shall be carried over from year to year in full months only (and for this purpose a month shall be considered as having twenty-five working days), and any fraction of a month remaining at the end of a year shall be disregarded.

4. Only absences which constitute resignation or discharge shall be considered as interrupting continuous service.

5. In computing accumulated service, the service of any employee industrial partner prior to the day on which he became an employee industrial partner shall be counted as two years and no more, and the service of an employee industrial partner whose rights have been suspended, between the date of suspension and the day on which his rights as an employee industrial partner were restored, shall be counted as one year and no more.

6. In determining length of service in years prior to 1920 the lengths of service used for the purpose of distributing the 75th anniversary fund shall be employed and shall not be subject to amendment.

FORM OF DISTRIBUTION

The employees' industrial partnership fund shall be distributed in the form of non-transferable, non-voting stock, to be known as Dennison employees' industrial partnership stock. This stock shall be issued at par in shares of $10 par value. It shall pay dividends annually at the same rate that dividends are paid on managerial industrial partnership stock during the same year.

Insofar as possible the share of each employee shall be distributed in certificates of employees' industrial partnership stock, but such amounts (less than $10) as may remain shall be distributed in cash. Each employee industrial partner at the time of first receiving a certificate shall sign a contract for special remuneration in which he shall indicate the beneficiary to whom the benefits accruing to his stock shall be paid in case of his death, and may also designate a second and third alternate beneficiary. The beneficiaries, however, may

be changed by the employee at any time by notice in writing to the company.

TERMINATION OF EMPLOYMENT

Whenever a holder of the Dennison employees' industrial partnership stock resigns or is discharged from the employ of the company (whether he receives a pension or otherwise) or dies, his right to dividends upon this stock shall cease, and he or his beneficiary shall return the stock to the company. In return the company shall issue to him or in case of his death directly to the first of the beneficiaries that he has designated who is living at the time of his death (and not to his estate unless no beneficiary is named or living), one share of second preferred stock for every ten shares of employees' industrial partnership stock which he returned or to which he was entitled, and shall pay in cash at par for any additional shares of employees' industrial stock (less than ten) then remaining.

COMMITTEE ON OPERATION

The chairman of the General Works Committee and the chairman of the Central Committee, ex-officio, shall be a Committee on Operation for the employees' industrial partnership plan. It shall be the duty of this committee to investigate the operation of this plan for the purpose of determining whether it is being carried out in every particular, and to report annually to the General Works Committee concerning its operation. To this end, the committee shall at all times have power to inspect the books and records of the company.

It shall also be the duty of this committee to prepare according to the provisions of this plan the list of Dennison employee industrial partners for each year, designating the group to which each employee belongs. In case any employee is not satisfied with his position in this list or feels that he is unjustly excluded, he

may take his case up directly with the Committee on Operation, which shall consider his case. For the purpose of such reconsideration, but for no other purpose, the president of the company shall, ex-officio, be a member of the Committee on Operation. The decision of this committee upon any such reconsidered case shall be final and not subject to alteration by the General Works Committee or the management.

DISTRIBUTION AND WAGES

The funds distributed are an award of extra efforts, saving of waste, and whole-hearted cooperation, and are entirely distinct from and in addition to regular wages, and the fact that funds are so distributed among the employees shall not be considered in determining regular wage rates.

Gifts of Stock

Gifts of stock are frequently limited to the more responsible employees, or to those whom the officials deem especially worthy of recognition. The Boston Consolidated Gas Company, which has distributed a bonus in the form of preferred stock for about fifteen years, limits its gifts to selected employees who "show regularity, intelligence and energy" and have worked for the company at least six months, during the past year. In the year ending June 30, 1920, eight hundred and thirty-nine out of thirteen hundred and fifty-seven employees were reported to have qualified.

The president of the Harvard Knitting Mills, which has for two years given a share of profits as "certificates of ownership," has recently complained that only about 40 per cent of the beneficiaries have manifested the increased energy and zeal which was expected. It is worthy of note that the mill shares profits in this way with all who have a service record of a year or more. In this connection a comment of the Studebaker Cor-

poration on its various incentive plans may be emphasized. In reply to a question as to "pitfalls to be avoided," a representative of the company answers: "The plan must be strictly adhered to in order that men may not expect to receive these benefits as a matter of course. In other words—the man must realize that there is an obligation upon him which he must discharge in order to merit the benefits set forth."

Summary

The effectiveness of the plans, discussed in this survey, depends very largely on the way in which they are presented to the employees. It also depends on the number of shares the employees as individuals hold. Those plans which place only two or three shares in the possession of an employee hardly can be expected to create much enthusiasm.

The experience of companies with such schemes is that the appeal is strong and the results valuable with the salaried officers and those who can understand the full significance of the ownership of stock. With the rank and file, however, it has proved difficult to make the men realize that the sheet of paper really means ownership and a voice in the company management.

It is interesting to note that in England in 1919 there were forty-three new "copartnership plans" as they are called in that country, in 1920, forty and in 1921 only three, while five of the 1919 plans and one of the 1920 creations were discontinued. There seems to be a slowing up in the extension of this kind of employee participation in that country which is explained by some as being the result of unsuccessful experiences on the part of those who have experimented with the schemes. Possibly, however, the slowing up of this movement in England may be due to business conditions and should not be taken as indication of a change in attitude until it has proceeded further.

TYPE I. SOLD AT MARKET VALUE

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
American Multigraph Company May 1, 1920	None	Common 12,500 shares ($250,000)	$2 per share down $1 monthly	Stock non-assignable and non-transferable	7% allowed on all partial payments may be credited on shares	Payments returned if employee leaves before stock is paid up. Par is 20
American Sugar Refining Co. Dec. 10, 1918 Dec. 20, 1919	None	Common Preferred	$5 or multiple, down, equal payments thereafter. Two years to pay for 5 shares or less, 3 years for more than 5	On demand payments returned with 4% interest		Accrued dividends paid when stock is paid up—minus 4% interest
Joseph Knopf & Sons, Inc. (Rochester, N.Y.) 1919 90 % subscribers	3 months' service					
Gulf Coast Lines (New Orleans, Texas & New Mexico Railway Company) Feb. 1, 1921	None	Common 3,000 shares	30 monthly payments		6% dividends, guaranteed for 30 months	6% charged on deferred payments. Dividends charged against them
Hilo Varnish Corporation (Brooklyn, N.Y.) May, 1920	5 years' service	$150,000	"Reasonable amount to each," paid by— (a)—Cash (b)—Dividends (c)—Salary deductions (d)—Profit-sharing bonus			

TYPE I. SOLD AT MARKET VALUE—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Hydraulic Steel Co. May, 1920 45% subscribers	American citizenship, 3 months' service	Common [84,998 shares subscribed — 35% of outstanding common]	12% of monthly wages down, 6% monthly thereafter, 50% of any profit-sharing. Yearly salary is maximum subscription	On leaving company receives stock paid for and remainder in cash less interest		6% interest on unpaid balance. Par is 40
Lehigh Valley R. R. Co. June 22, 1920	None	Common	Monthly deduction from salary of $5, or multiple thereof, per share			May buy 1, 2, 3, 4, 5, 10 or 20 shares. Receive 7% dividend on amount paid. Par is 50
New York Central R. R. Co. Sept. 15, 1921 75,000 employees	None		Monthly payments of $1 or multiple. At least 1-24th of month's wages. Maximum 15 shares	"No guarantee" of future price or dividends	"No charge for services of firm"	6% charged on unpaid balances. Dividends credited. Balances turned over when stock is paid up. Par is 100
Pittsburgh Coal Co. 1901 15,000 employees 12.77% subscribers	None	Common Preferred [19,703 shares subscribed]	Unlimited amount. Minimum $1 per share monthly — maximum 25% of pay. 5 years to pay up	On demand, payments returned with 5% interest. Cannot assign contract	$1 per share yearly to stock held by employees	Purchased through contract with employees' association
Studebaker Corporation Sept. 1, 1919 14,000 employees	3 months' service	Common Preferred	Maximum 5 shares, not to exceed $300 or 20% of annual salary. 10% down, 40% in equal quarterly payments during 4 years	Under 6 months, payments returned; over 6, may buy stock or sell at market value and receive any balance	50% if employee continues payments for 4 years	6% interest on unpaid balances. Dividends credited

TYPE I. SOLD AT MARKET VALUE—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Trumbull Steel Co. Oct., 1920 5,000 employees 1,500 subscribers		Common [40,000 shares, $1,000,000 subscribed]			Bonus of $7 per share to employees holding stock until Jan. 1, 1925	Par is 25. Sold at 27.50
Wheeling Steel Corporation Aug., 1920		Common [1-40 of outstanding common subscribed — 10,300 shares-$824,000]	Minimum $3 per share monthly. Maximum 25% of monthly salary. Payments deducted from salary		Bonus of $4 a year to those remaining with firm	6% charge on unpaid balances. Dividends credited
Hercules Powder Co. (Wilmington, Del.) 1920 1,700 employees	None	Preferred	2 to 5 shares, according to salary. Minimum $3 monthly per share. Maximum 25% of salary	Payments returned less 5% interest on unpaid balances	Bonus of $4 a year if held for 5 years	5% interest on unpaid balances
Hibernia Bank & Trust Co. (New Orleans) 224 employees 45 subscribers			Maximum 5 shares, $10 down, $5 per share monthly			5% interest on unpaid balances

TYPE I. SOLD AT MARKET VALUE—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Standard Parts Company (Cleveland) 1918 2,322 employees 60% subscribers	[Judgment of management]	Common	10% down, $3 per share monthly	Refund on leaving firm		
Fuller & Smith (Cleveland) 1916 80 employees 20 subscribers	[Judgment of directors]		10% down, personal note, with interest at 6%	Must give firm option of rebuying at sale price plus 10%		Dividends credited against unpaid balance
Thos. Devlin Mfg. Co. (Burlington, N.Y.)	[Selected employees]		$1000 to each employee. Paid for at $2 per week. Certificate issued for each $100 paid	In event of death, unpaid balance plus 6% returned	Guarantee against loss while stock is being paid for	Dividends on whole $1000 received while payments are being made
Illinois Central R. R. Co.	None		Monthly deductions from salaries			

TYPE I. SOLD AT MARKET VALUE—*Concluded*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Los Angeles Gas & Electric Corporation Feb. 1, 1921 1,500 employees 50% subscribers	None	6% cumulative preferred	Maximum 5 times monthly salary. 4¼ years to pay			Interest credits average 9.3% while payments being made
Procter & Gamble (Cincinnati) Jan. 26, 1920	Any employee (except salesmen and traveling representatives) with maximum salary $2,000	Common	Maximum, annual salary. Payments minimum 1-12 of 5% monthly and all profit-sharing dividends	Holding less than 1 year—payments returned plus 6%; over 1 year—stock (or may offer to company at market price)	Profit-sharing dividends of 10% first year to 20% after 10 years	Stock delivered as fast as paid up after 1 year's participation
Jan. 26, 1920	Employees who have subscribed and paid up as above	$100 savings certificates, exchangeable for common stock	Maximum 5 certificates a year. Minimum payments, 5% of salary monthly	On leaving or on demand payments returned with 6% interest		6% interest paid. Certificates non-transferable
Jan. 26, 1920	Employees not eligible under profit-sharing plan	Common	Maximum 1 year's salary, not to exceed $3000 $5 down, payments at any time within 6 years	If stock falls below cost within 6 years, firm returns cash plus 6% interest, if employee remains in service (maximum $3,000)		Dividends credited. Interest on unpaid balances 4% if 15% of stock is paid in each year, 6% if less
Southern California Edison Co. 1917 90% subscribers			7½% of salary deducted			8% dividends. 6% interest on unpaid balances

TYPE II. SOLD AT PAR

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Canada Cement Co., Ltd. (Montreal)	None	Common Preferred 7% [1 share preferred to 3 shares common] Amounts in discretion of Board of Directors	Minimum, $1 per share monthly			5% interest on unpaid balances. Dividends credited. Stock held until paid up, 5 years' service and 2 years after allotment. Par is 100
Commonwealth Edison Co. (Chicago) July 1, 1909 5,000 employees 2,360 subscribers	1 year's service	Non-voting debenture	3 or 5% of salary, paid within 4 days of pay day	Payments, less expenses, returned if not paid regularly		Amount deposited with compound interest at 5% used to buy stock after 5 years
Cleveland Twist Drill Co. Dec. 14, 1918	5 years' service	"Note and certificate of participation"	Sold in $10 or multiple thereof	May require 6 months' notice		6% interest paid semi-annually on payments
Craddock-Terry Co. (Lynchburg, Va.)		Second Preferred	Weekly or monthly payments for not more than 1 year	If sold before specified date, must offer to firm at par plus 6% from date of last dividend		No interest on unpaid balances. Dividends received while stock is being paid for
Eastman Kodak Co. (Rochester, N.Y.) July 10, 1919	2 years' continuous service	Common 10,000 shares ($1,000,000), donated by Mr. Eastman and same amount offered by company	Maximum 2% of salary. May pay from dividends or as convenient	For acts prejudicial to firm, certificate may be annulled and payments returned minus interest		Purchases subject to approval of Mr. Eastman, or firm, according to the stock

TYPE II. SOLD AT PAR —*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Edmonds Shoe Co. (Milwaukee) Dec., 1919		7% preferred	Weekly payments allowed		3% additional interest	
Elgin National Watch Co. (Elgin, Ill.) Jan., 1921	(a)—Under 5 years' service — 4 shares (b)—5 to 15 years' — 6 shares (c)—15 to 25 years' — 8 shares (d)—Over 25 years' — 10 shares		Amount of bonus minimum payment in January. Monthly payments of $10	Leaving firm, employee must offer it stock at par plus increase in book value	No interest charged on unpaid balances	Dividends credited. Par is 25
Goodyear Tire & Rubber Co. (Akron, O.) Nov., 1919 15,000 subscribers	None	Preferred (Over $5,000,000 subscribed)	Maximum 20 shares. $1 weekly or $4 monthly per share	Payments returned on request with 4% interest	3% bonds for 5 years to employees holding stock and in service	5% interest on unpaid balances. Par is 100
—	—	—	—	—	—	—
April 1, 1920	None	Preferred 7% ($5,000,000)	Same as above	Same as above	Same as above	Same as above
—	—	—	—	—	—	—
June 2, 1920 1,496 subscribers [1921 — $12,000,000 stock owned by employees]	None	3 share blocks Preferred—2 Common—1 ($582,700 sold)	25% down, balance June 25, 1920			

TYPE II. SOLD AT PAR —*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
W. H. McElwain Co. (Manchester, N.H.) June 21, 1920 [Discontinued upon merger with International Shoe Co.]	6 months' service	Second preferred [No vote ordinarily]	Full payment with subscription	Firm will try to find another employee to buy		Stock sold at par (50) plus accrued and unpaid dividends. Regular dividend 6%. Extra dividend 3%
Liggett & Meyers Tobacco Co. March, 1920		Common and Common B [21,496 shares offered]				
Libby, McNeill & Libby (Chicago) June, 1920	6 months' service	640,000 shares (140,000 on deferred payments)	10 to 50 shares. 2 years to pay			Par is 10
Midvale Steel & Ordnance Co.	None		Monthly payments, minimum $4, maximum 25% of salary. Number of shares fixed by monthly wage. Maximum 20			Par is 50
New England Power Co. (Worcester, Mass.) Jan. 30, 1920	None	Preferred	Monthly payments $2 per share. Maximum, one-fifth of monthly salary	Payments returned plus 6% interest	Annual bonus for holding stock—$1 first year to $4 the seventh	6% interest on amount paid in until stock is paid up; then regular dividends

TYPE II. SOLD AT PAR —*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Rochester Folding Box Co. (Rochester, N.Y.) 76% subscribers	None	"Employees' Preference Stock" [1000 shares offered and subscribed]	10% down, $2 per share weekly	Death—Firm will buy for $110 Retirement — Will buy for $130 Others leaving firm must sell at $101		8% dividends before any are paid on other stock, and share profits after all dividends are paid. 8% on all cash paid in
Strathmore Paper Co. (Mittineague, Mass.) July 1, 1920	6 months' service	"Employees' — preferred 7% cumulative [$500,000 offered, $10 a share]	Maximum $2,500. Weekly payments allowed, minimum $1	Must be offered to firm on death or leaving, 30 days' option at $10.30	Service dividend—1 to 5 years — 1% yearly 5 to 10—2% 10 to 15—3% 15 to 20—4% Over 20 or retired—5%	Special stock, no voting rights
Niagara Falls Power Co. Jan. 30, 1920 600 employees 92% subscribers	6 months' service	Common	25 cents per share weekly	Payments returned plus 4% interest quarterly	6% annually, plus amount equal to dividends, over 4% on same shares of common stock [Extra compensation ends when stock is issued]	Par is 100
Swift & Co. [Employees' stock investment plan] 10,000 subscribers	None		1 to 50 shares [As many as can be paid for in 2 years] 10% down, 6 months' note at 5% interest			8% dividends begin at once
[Employees' stock savings plan] June 2, 1919 13,000 subscribers	None	Treasury Stock	1 to 5 shares, according to salary. $1 weekly per share	——	——	——

TYPE II. SOLD AT PAR.—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
American La France Fire Engine Co (Elmira, N.Y.) Sept. 1, 1920	3 months' service	Preferred non-assessable cumulative 7% stock [7,500 shares]	Maximum 30 shares. Minimum $1 weekly or $4 monthly per share. Two-year limit to pay	Payments returned plus 5% interest. Stock must be sold to firm at 120 plus accrued dividends	10% of amount of subscription. $3 per share yearly for 5 years if stock is retained and "proper interest" shown	5% interest on unpaid balances. Dividends credited. Par is 100
E. I. du Pont de Nemours & Co. Nov., 1920 [revised plan] 35% subscribers	1 year's service	Non-voting 6% debenture stock	Installment payments arranged for		Rate of "service payments"—1 to 2 years—1% 2 to 4 years—2% 4 to 7 years—3% 7 or over —4%	"Guarantee par 100" Extra "participating payments" if net earnings are over 8%; 8 to 9%, 1%, etc. 12 or over—5%
Great Northern Railway Co. (St. Paul) 1900	Maximum salary $3,000 3 years' service	11,880 shares	$10 shares in "Great Northern Employees' Investment Co., Ltd."		Firm bears expenses of management	
Cleveland Worsted Mills Co. 1905 5,000 employees	1 year's service		5% down. Personal note with 5% interest	If sold within 3 years, company has option at 105		

TYPE II. SOLD AT PAR.—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Penton Publishing Company (Cleveland, O.) 1917 200 employees 72 subscribers	2 years' service	Second Preferred guaranteed 8% stock [2,000 shares, 375 subscribed]	Allotment according to salary. Maximum 10% of salary. 10 equal monthly payments	Fund of 10% of outstanding stock maintained for taking it up		6% interest on unpaid balances
Russ Manufacturing Co. (Cleveland, O.) 1915 190 employees 60% subscribers	1 year's service	Common	1 year's service 5 shares—$1 weekly 2-10 shares—$2 weekly 3-20 shares—$4 weekly	Payments returned plus accrued dividends		10% dividend guaranteed for 5 years; credited on unpaid balances
National Carbon Company (Cleveland, O.) June 9, 1916	None	Common [5,000 shares]	According to salary payments in 3 to 5 years. Minimum 1% monthly, maximum, 1-3 in 1 year	Payments returned plus 4% interest	$5 per share yearly for 5 years	Dividends credited. 4% interest on unpaid balances
Crane Co. (Chicago)	None	$10,000,000 cumulative 7% preferred offered ["Large amount sold"]	Monthly payments		"Rebates based on length of service"	Dividends begin at time of subscription

TYPE II. SOLD AT PAR—*Concluded*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
General Electric Company 30,000 subscribers	None	Employees' 7% investment bonds, series of 1921 ($10, $50, $100, $500, $1,000) 50 cents employee's subscription stamps, 20 exchanged for $10 bond. Maximum $1,000	$10 bonds, cash. Others: 50 weekly payments, 10 monthly or quarterly. Maximum $1,000	Must be returned for redemption within six months after leaving firm		
Pilgrim Steam Laundry Co. Oct. 18, 1921 313 employees	3 months' service	2,000 shares	Minimum 2 shares, may be paid at once, or part down, and minimum, 50 cents per share weekly. 1 year to pay up	Payments returned on leaving before paying up. Firm has option on repurchase at "fair and reasonable price"		No dividends until paid up. Sold at 25
American Telephone & Telegraph Co. May 1, 1921 [See other plans, Type III]	6 months' service		1 share for each $300 of annual salary. Maximum 50 shares a year. $3 monthly per share from salary	Payments returned with 4% interest quarterly if subscription agreement is sold or pledged, 8% on death, 6% on leaving or withdrawal		Par is 100. Interest at 8% quarterly on payments; no dividends while paying
Deere & Co. (Moline, Ill.) Nov. 1, 1919	1 year's service	7% cumulative preferred [5,000 shares]	Maximum 25 shares (also annual salary). $2 monthly per share	Payments returned plus 5% interest	$3 per share annually	Dividends credited. 5% interest on unpaid balances

TYPE II. SOLD AT PAR—*Concluded*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Telling-Belle Vernon Co.	American citizenship 1 year's service	Common	1 year's service—5% of year's salary 2 years' service—6% 3 years' service—7% 4 years' service—8% 5 years' service—10% 10% down, 10% monthly	Payments returned plus 6% interest		6% interest on unpaid balances. Dividends credited. Par 20
Noyes Bros. & Cutler, Inc.	6 months' service — For executives only	$100,000 — "Managers' stock" (amount fixed annually	Maximum amount, annual salary. $5 or $20 per share weekly	——	—	— $1 par, issued in varying amounts
Roycrofters (East Aurora, N.Y.) 1919 300 employees 50% subscribers		Preferred	20% down, $1 or $2 weekly			8% dividends. Par 50
C. & G. Cooper Co. 500 employees [Plan withdrawn]		Preferred (500 shares)	Minimum $5 monthly. Maximum 25% of annual salary. 2 years to pay up.	Stock callable at par plus accrued dividends. Payments returned plus 7% interest	$3 per share annually for 5 years in cash, or collected on unpaid stock	Par 100. 6% interest on unpaid balances. 7% dividends credited

TYPE III. SOLD AT A DISCOUNT

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
American Telephone & Telegraph Co. Jan. 1, 1915 78,500 eligible 34,000 subscribers	2 years' service		$2 per share monthly			$6 discount. Dividends credited. 4% interest on unpaid balances
March 1, 1916 [See later plan, Type II]	2 years' service	33,000 shares	$3 per share monthly. 1 share for each $300 of salary. Maximum 10 shares	Payments returned plus 4% interest		$9 discount. Sold at 118. Dividends credited. 4% interest on unpaid balances
American Woolen Co. May, 1921	None	Common	$1 per share weekly. Maximum 20 shares	Balance paid in returned with 5% interest on demand or on leaving firm. 6% interest allowed in event of death	$12.50 per share after 5 years' ownership and "proper interest shown in firm's welfare"	Dividends credited. 5% interest on unpaid balances. Sold at 66.50
Boston Woven Hose & Rubber Co. Jan. 1, 1918 1,400 employees	Minimum salary $1,200 2 years' service	Common [500 shares yearly for 5 years]	Allotment according to salary and length of service. May take 50% of allotment. 10% or 5% of salary deducted	Payments returned on demand or on leaving firm plus 5% interest. [In some cases plus part of difference between purchase and market prices]		Stock not property of employee for 5 years. Dividends credited. 5% interest on unpaid balances. Sold at 4/5 of market price

TYPE III. SOLD AT A DISCOUNT—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Brier Hill Steel Co. (Youngstown, O.) Dec. 14, 1920	None	Common (15,000 shares)	5 to 45 shares, according to salary (under $1,500, 5 shares). 50 cents per share monthly deducted from wages. Maximum payment 25% of wages. 3 years to pay up	Balances paid in returned plus 5% interest	Bonus for employees remaining with firm and holding stock: 1 year—$1 per share 2 years—$2.50 etc. 5 years—$3	Dividends credited. 5% interest on unpaid balances Sold at 27. No guarantee of future dividends or value of shares
Samuel Elman Co. (Schenectady, N.Y.) Feb., 1920 200 subscribers	None	Common	10% a year—weekly or annual payments	Payments returned on leaving firm; stock must be given up		"Value $100 a share"—sold for 80
General Electric Co. Nov., 1920	2 months' service		$1 per share weekly or $4 monthly. 1 to 10 shares	Payments returned plus 7% interest on demand or on leaving firm		Dividends credited. Interest charged against unpaid balances. Discount of 20 (from 136 to 116)
B. F. Goodrich Co. July 1, 1920	3 months' service	Common	1 share for each $300 of annual salary. 25 cents weekly or $1 monthly per share. 4 years to pay up	Payments returned plus 6% interest	Bonus for employees remaining with firm and holding stock: 1 year—$1 per share 2 years—$2, etc. 5 years—$5	Dividends credited. 6% interest on unpaid balances [Price fixed by company]

TYPE III. SOLD AT A DISCOUNT—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Imperial Oil, Ltd. (Toronto) April, 1920 6,000 employees	1 year's service		Definite amount at regular intervals for 12 months	(a)—Depositor less than 2 years—cash or stock plus 6% (b)—2 to 5 years—stock plus 6% (c)—Over 5—stock plus firm's contribution	50% of employee's deposits	Market price 125-135. Sold at 75. Price fixed annually
Lehigh Coal & Navigation Co. Jan., 1921	None	2,500 shares	Under $1,500 yearly, 2 shares, over $1,500 5 shares. Minimum $5 monthly	Payments returned plus 4%	$2 annually for 5 years if stock is retained and employee remains with firm	Dividends credited. 4% interest on unpaid balances. Sold at 65.
Lincoln Motor Co. (Detroit, Mich.) April 1, 1920	None	Class A (5% cumulative, generally no vote)	Allotment by firm. $5 per share down. $1 minimum per share monthly	Payments returned with balance if stock is sold		Par is 50 Sold at 40
Schulte Retail Stores Corp. Dec. 1, 1920	None	Common (8,000 shares)		40—1st year 46—2nd year 52—3rd year 58—4th year 64—5th year		Sold at 40 10% dividends guaranteed for 4 years
Standard Oil Co. of New Jersey Jan. 1, 1921	1 year's service	Common	Regular deposits into fund held by trustees (maximum 20% of salary)	Payments returned on demand or on leaving firm, plus 6%	50% of employee's deposits	Price fixed annually 1921=155 Par is 25

TYPE III. SOLD AT A DISCOUNT—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
United States Steel Corp. 1903 225,000 employees 66,311 subscribers	None	Common (1903-1909 preferred. 1909-1916—both) [186,600 shares subscribed]	1 to 15 shares, according to salary. $2 per share monthly minimum. Maximum 25% of salary	Payments returned plus 5% interest	$5 yearly for 5 years	Sold at "Usually a little less than prevailing market prices." Dividends credited. 5% interest on unpaid balances
Wheeling Steel Corp. (Wheeling, W.Va.) April 1, 1920	None	Common (8,000 shares)	1 to 15 shares, according to salary. From $3 to 25% of salary per share monthly. 3 years to pay up	Payments returned plus 6% interest	$4 yearly for 5 years	Sold at 80. Dividends credited, 6% interest on unpaid balances
Atlas Powder Co. (Philadelphia, Pa.) 1920	None	Preferred	Maximum, 30 to 40% of annual salary		$2 yearly for 5 years	Sold at 91. 5% interest on unpaid balances, computed monthly
Dutchess Bleacheries, Inc. (Wappinger Falls, N.Y.) 1920	None	7,000 of the 27,000 outstanding shares	$10 down and $1 weekly per share			Sold at 40, or 20% below market. 6% interest on unpaid balances
Cleveland Hardware Co. 1912 (revised 1918, 1919, 1920) 2,500 employees 3% subscribers	"Executives and employees in responsible positions"		10 semi-annual payments	Payments returned on leaving. Firm may rescind contract and return payments		New contract drawn for each sale. 6% interest on unpaid balances

TYPE III. SOLD AT A DISCOUNT—*Concluded*

Concern Date Plan Established	Eligibility (Requirements)	Stock Offered	Terms of Payment	Terms of Redemption	Contribution of Firm	Remarks
Youngstown Sheet & Tube Co.	"Selected managerial employees"	Common	10% down, 90% during 2 years	Payments returned plus 10% dividends		Employees agree to remain with firm for 2 years. Dividends credited. 6% interest on unpaid balances
E. I. du Pont de Nemours & Co. 1920	2 years' service	Non-voting debenture (9,000 shares)	3 to 6 shares, according to salary. Minimum, $3 per share monthly	Payments returned with stock bought, less interest due	Guarantee of $9 dividends for 5 years to employees holding stock	5% interest on unpaid balances. Sold at 93
American Rolling Mill Co. 1920	1 year's service	Common	1 to 130 shares, according to salary. $1 minimum per share monthly. 4 years to pay up	Payments returned with 6% interest		Par is 50. Sold at 47. Dividends while paying applied to discount and 6% interest on unpaid balances

TYPE IV. GIVEN TO EMPLOYEES

Concern Date Plan Established	Eligibility (Requirements)	Stock Distributed	Terms of Redemption	Remarks
Baker Mfg. Co. (Evansville, Wis.) 1899 150 employees	4500 hours' service. Must not have sold any stock	Common [$768,000 from 1900 to 1919]	Stock left on deposit with firm. Firm may buy if employee works for competitor, works for another for 5 years, or goes into business for himself.	After paying 5% dividends and 10% sinking fund, profits divided 50-50, and distributed in proportion to earnings, 90% in stock
Brooklyn Edison Co. Dec. 12, 1910 3100 employees 32% subscribers	2 years' service			Profit-share certain percentage of wages. Receives after 2 years' service—¼ dividends 3 years' service—½ dividends 4 years' service—¾ dividends 5 or more—full dividends Stock credited for 3 years. Credits forfeited if discharged for misconduct or leaving without month's notice. Allowance for exceptional cases (death, etc.)
Boston Consolidated Gas Co. 1,357 employees 839 subscribers	"Selected employees, at least 6 months' service"	Preferred stock of Mass. Gas Co. [$761,612.26 in 14 years]	Shares not to be sold without approval of directors	Profit-sharing dividends credited toward shares of stock
Dennison Mfg. Co. (Framingham, Mass.)	(a) 18 years of age, 2 years' service (b) 7 years' service and $1200 salary or 6 years and $1500, or 5 years and $1800	"Employees' industrial partnership stock" "Managerial industrial partnership stock"	Must be turned in on leaving firm for cash or 2nd preferred (1 share for 10 of I. P.)	I. P. stock distributed according to length of service I. P. stock loses votes if preferred stocks are in arrears four years Average cash dividends on I. P. stock 9½% I. P. stock issued at par, 10. Non-assignable and non-transferable

TYPE IV. GIVEN TO EMPLOYEES—*Continued*

Concern Date Plan Established	Eligibility (Requirements)	Stock Distributed	Terms of Redemption	Remarks
Glen-Gery Shale Brick Co. (Reading, Pa.)			If employee dies within 10 years, firm will buy back stock	$100 share given each employee annually for 10 years. Dividends paid on $100 first year, $200 second, etc.
Harvard Knitting Mills (Wakefield, Mass.) Jan. 1, 1920 800 employees	1 year's service	"Certificates of ownership"	Holdings cashed on discharge. Within 1 year if leaving voluntarily	50% of profits credited to "employee-partners," half-paid in cash, half in certificates paying "a high rate of interest"
Henry A. Dix & Co. (New York) April, 1920	Managers, department heads and foremen	Common ($100,000)		10% dividends guaranteed. Annual bonus 20% cash, 80% in stock
International Harvester Co. Jan. 1, 1920	(a) Executive and managerial positions. 1 year's service	Common		Extra compensation of 20% of all profits over 7% paid yearly, half in cash, half in stock
Jan. 1, 1920	(b) Non-executive workers. 1 year's service	Preferred 7% cumulative		40% as above, half in cash, half stock. May use cash bonus to buy preferred stock. Smaller payments allowed to accumulate to $100 with 7% interest
Larkin Co. (Buffalo, N.Y.) July, 1919	Chosen by directors for interest shown [Must be 21 years old, American citizen and in service 3 years]	Common ($10,000,000)	On leaving firm (except retirement) must (a) sell stock to firm, (b) take 6% note of firm for 6 months. (c) exchange for 2nd preferred if firm desires	Employees eligible receive stock equal to one-tenth of annual salary times number of years less 3 he has been employed. May also buy common stock to 20% of annual salary

TYPE IV. GIVEN TO EMPLOYEES—*Concluded*

Concern Date Plan Established	Eligibility (Requirements)	Stock Distributed	Terms of Redemption	Remarks
M. Lowenstein & Sons, Inc. (New York) July 1, 1920	3 years' service. Others who in firm's judgment merit reward"	First Preferred ($100,000)		Stock held in trust until Oct. 1, 1922. Forfeited if employee leaves firm before date. Delivered to estate if he dies, or to woman marrying.
New Haven Gas Light Co. April, 1907 525 employees	Approval of executive officers and board of trustees.	7033 shares issued, 3394 retained by employees still with firm	Request that stock be offered to firm first if sold	8% profit-sharing quarterly in form of credit changed to stock as soon as large enough. 50% reduction if profit-sharing dividend is taken in cash.
Pittsburgh, Butler & Harmony Consol. Railway & Power Co. 400 employees	None	Common ($1,000,000)		Stock held as a trust fund. Dividends divided equally among the employees. Voting power of stock remains with president of company, but employees elect three directors
Remy Electric Co. (Anderson, Ind.) April, 1920	"140 of the older employees"			$140 to $170 shares of General Motors stock, to be delivered in 1 year. Annual bonus to older employees
John B. Stetson Co. (Philadelphia) 1902 25% subscribers		6,000 shares	On leaving firm receives as much as par value has accrued	Paid for by profit-sharing dividends in 5 years, then held in trust for 10 years (employee receiving the dividends)

CHAPTER XIV

MUTUAL BENEFIT ASSOCIATIONS

EMPLOYEES' BENEFIT ASSOCIATIONS[1]

Employees' benefit associations are the outgrowth of the workers' own efforts to protect themselves and their families against emergencies.

> The service of the mutual benefit association is in the nature of limited insurance for the workman against accident, sickness, old age, death, or other adversity. It is the simplest and least expensive means taken to compensate for failure or inability of the workman to save through years of active labor.[2]

The growth of these associations has been steady. Failures have been few. Such associations are a vital activity in employees' service work.

Scope of the Survey

The present survey has "taken stock" of the activities of employee mutual benefit associations throughout the country. A large number of successful plans have been analysed and the various functions, methods and details compared. The following detailed analysis covers the variations in type of associations and brings out what is the best practice.

Three General Types

For purpose of comparison, the plans may be grouped under three general types: I. those which are administered solely by employees; II. those administered jointly by company and employees; and III. those

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[2] Daniel Bloomfield. Labor Maintenance. p. 340. Ronald Press Company.

administered solely by the company. The divisions are not clean-cut. The independent association may be to a great extent reliant upon the voluntary cooperation of the personnel staff; the jointly administered association may be run entirely by the employees, with the firm's representatives nominally in charge.

Form of Organization

The mutual benefit association is clearly an organization to provide some kind of insurance for its members. However, the word "insurance" is carefully avoided, in most cases, to prevent complications under state insurance regulations.

The form of association varies from a group, which merely subscribes to the "plan," to an elaborate, self-governing, incorporated association, with its own offices, club houses, and a large financial surplus. Among the names applied to such associations the following are most common: Employees' Mutual Benefit (Benevolent, Beneficial,) Association, (Brotherhood or Society) Relief, Sick, Aid, Burial, Cooperative Welfare, Accident, Etc. Sometimes the name is derived from the initials or first syllables of the company name—as the Armco Association of the American Rolling Mill Company, or the Amexco Association of the American Express Company.

Date of Establishment

So far as possible, the dates of establishment of the various plans are noted.[1] The plans date back to about 1870. The fact that plans in force for several years have required frequent revision indicates that the association ought to be elastic, to allow for its growth, and adjustment to changing conditions and needs. The mutual benefit idea is not a new one—the close of the nineteenth century saw organizations of this nature in most of the big companies of the country. What recent years have

[1] See charts p. 197-216.

brought is the extension of the mutual benefit idea into hundreds of new organizations, companies, internal growth and expansion of activities.

Eligibility

Compulsory membership is comparatively rare—the predominant type is a voluntary organization. Associations of all three types include occasional plans which require all employees to join—such as the plans of the American Rolling Mill, under Type I; Calumet and Hecla Mining Company, under Type II; John Deere Plow Works, under Type III. A compromise with compulsory membership is seen in the instances where employers require membership in the benefit association in order that the employee may be eligible for a pension, or for group insurance.

Exclusions from membership discriminate against colored employees, females, married females, those under or above a stated salary, those holding positions outside of specified departments, or holding positions of rank of foreman or executive, those below or above certain ages, those who fail to pass a medical examination, those who join a labor organization, those who live outside certain geographical boundaries, those who have been found guilty of misconduct, and those who have not been in service a stated length of time.

Age limits and health examinations are the two most common requirements. Both are necessary safeguards, except in the case of accident benefits. A minimum age limit is less often necessary for the limitation of the employment age often cares for this automatically. But in the case of voluntary organizations, the tendency to slip over the younger years, and join when the liklihood of needing benefits increases, is generally taken into account —either by ineligibility, higher rates, or lower benefits.

Medical examination is often covered by the regular examination made by the company. Some organizations

have their own staff physicians, some use the company staff, others make arrangements with outside physicians. Where benefits are small, and there is no provision for death, examinations are often done away with. In the case of the Portland Railway, Light & Power Company, those rejected by the examining physicians may pay a percentage of the dues and be eligible only for accident benefits. The medical examination, besides eliminating obvious risks, is a valuable aid—socially and financially, in arresting incipient cases of disease.

Length of service requirements are less often found in membership clauses than in benefit clauses. The usual practice is to join at once, but a stated time of membership is generally required for eligibility to benefits. This time varies from two weeks to six months for disability benefits, and up to a number of years for death benefits. Such a waiting period either before or after is a necessary safeguard—where it has not been required, such cases have been discovered as that of a man hastening to join after planning to undergo an operation.

Withdrawals

The most common provision for withdrawal is leaving the employ of the company. Where membership is allowed after departure, special provisions are noted on the charts, e.g. increased dues, residence requirements, etc. Such provisions are found usually in independent associations like the Pennsylvania Railroad System Mutual Benefit Association, Incorporated. Allowances of this nature obviate one of the outstanding good features of the benefit association in the minds of some employers—the additional incentive to "stick to the job" which the promise of death benefits holds, and the resulting reduction of labor turnover.

Invariably there are found provisions for expulsion when a member is found guilty of fraud or attempt at

fraud. Cases of malingering and fraudulent claims are always possible and so careful supervision is necessary. Associations often include as cause for expulsion, violation of company rules, immoral or improper conduct, arrears in payment of dues for a stated period, joining a labor organization, disability for a certain maximum period and moving out of the jurisdiction of the company, (geographical limits).

Membership Classes

Membership is often divided into classes, to provide an elastic and equitable scheme of compensation. Such classes are determined by age, wages, sex, marriage, occupation, physical condition, length of service, and amount of insurance desired. Such division into classes, and flexible schedules of dues for each, are a right step in placing the mutual benefit association upon a sound actuarial basis.

Dues

On general principles, dues are considered most satisfactory when high enough to avoid too frequent assessments. When high enough to carry the usual load, any surplus that accumulates may be returned as dividends, in the form of decreased or suspended dues. The latter methods are found much more satisfactory than the schedule of special and emergency assessments.

New associations often charge an initiation fee, to increase the fund as much as possible, but the matter of an initiation fee is not a subject for the new association alone—practice varies among old and new, in about 50-50 ratio. The initiation fee is usually from two to five times the monthly dues. Some associations, like that of the White Sewing Machine Company, charge a triple fee for reinstatement.

The dues paid per week, besides varying with the various classes maintained and benefits paid, depend also

upon the contribution of the company. Among self-supporting associations, the monthly dues per member run generally between 25 and 50 cents. With the growing practice of company contributions, and accumulating surpluses in association treasuries, dues tend to decrease, while benefits increase. A common method of fixing dues is that of charging a fixed percentage of salary—1½ per cent monthly in the case of the Portland Railway, Light & Power Company and the Twin City Company; 1 per cent plus 2 cents weekly in the case of the Pilgrim Steam Laundry Company, etc.—And for the benefits there is another fixed percentage of the salary—in the three cases mentioned these are, half, three-quarters, and from one-third to full salary, respectively.

Where the association maintains an elaborate schedule of benefits, a schedule of actuarial rates becomes necessary, as in the case of the Pennsylvania Railroad organization, or L. S. Ayres & Company's Association. There is generally a limit in any case to the amount of benefits receivable—as in the last mentioned association, which limits the total benefits to 75 per cent of a member's salary. Monthly payment of dues is most common, semi-monthly in many cases, and sometimes weekly.

In one case, there is a "membership fee" which properly belongs to the class of initiation fees, as there are separate dues of 20 cents weekly. This fee is 40 cents for the first fourteen weeks, instead of the usual 20. However this is used as an incentive to the employee to join immediately after being hired, for it is waived if he joins the association within a month after entering the company's service.

Special Assessments

Special assessments are payments made regardless of dues to maintain or increase the funds. There are two kinds of special assessments:

1. *Regular special assessments.* These are provided for:

(a) At stated intervals, as in the case of the Portland Railway, Light & Power Company, which has a regular special assessment of 50 cents twice a year, or

(b) Upon the death of a member, his wife, or child. This form is very common—as in case of the Michigan Bolt & Nut Works which charges 50 cents assessment for member's death, and 25 cents for that of member's wife.

2. *Special assessments "when needed."* These are emergency assessments, resorted to when there is a special drain on the fund, or when the fund falls below a stated amount. Special assessments are usually provided for as in Wickwire Brothers, Inc. Employee's Aid Association—($1 when necessary). Extra assessments of this kind are sometimes limited, as in the Carborundum Company Sick Benefit and Funeral Association—(up to 25 cents monthly, when needed.)

The common method of avoiding emergency assessments is to maintain dues high enough to establish a surplus; and when the fund reaches a certain high limit, dues are either reduced or suspended until the fund sinks to a certain low limit, whereupon regular payment of full dues is restored. This is seen in such associations as that of Bethlehem Steel Company, whose high and low limits are $16,000 and $6,000, respectively. Dues are suspended when the fund reaches the high limit, and an additional safeguard is provided in the way of extra assessments in case the fund falls below the low limit.

Other charges to employees are seen in the case of Belle City Malleable Iron Company Benevolent Association, which charges a fine of 25 cents for not attending an annual meeting. The Calumet & Hecla Mining Company maintains a small charge for the use of the hospital provided by the company. The Hardwick & Magee Company Yearly Beneficial Association charges 1 cent per member for the expenses of meetings and committees.

Method of Collection

This is closely connected with the type of organization. In company-administered associations, the general practice is payroll deductions. This is the most common method in all three types. In employee-administered associations, payments are often made directly to the officers. The collection may be handled by "collectors"—(The Belle City Malleable Iron Company Association elects seven annually)—by "receivers"—(The Hardwick & Magee Company Association elects seven annually) or some such committee device. Among the jointly run associations, there is often the option of a payroll deduction, or paying to the company treasurer within a certain time of pay day.

Administration

When employees administer the benefit association without interference of the company they often seek the unofficial aid or advice of the latter. For instance, the advice of the company may be even required by the association's constitution before funds are invested—as in the case of the Twin City Company. This advice is usually available in any case, especially where there is an active head of the personnel department. The dangers that lie in allowing employees to run their association before they have sufficiently mastered the requirements and principles involved are apparent: First, officers must be competent enough to sell the insurance to the men; second, they must be able to manage affairs on a business basis. The most effective association is likely to be one administered by the employees, assisted and guided by a few experienced representatives of the company.

Type I. Associations Administered by Employees

A. The form of this type is in some cases an independent corporation, like the Pennsylvania Railroad System Association. With its own officers and staff, it is free to

carry on it's work as it sees fit, within the limits of its constitution and the requirements of the state insurance laws.

B. There is a second type, which is a subdivision of the employee's organization. This is seen in such cases as the Relief Association of the Louisville Railway Company, now a part of the Employees' Cooperative Welfare Association. It will generally be found in these cases, that the relief organization antedates the employee's association, and that when the latter is formed, it absorbs the other.

C. A type developing in the larger industrial centers is that of the Flint Vehicle Factories, which includes the employees of some twelve cooperating organizations. It is administered by a board of elected representatives from each factory, and enjoys the increased power and scope of its larger facilities.

D. The usual type of employee-administered association has at its head a governing board, (from five to twenty termed "Board of Directors," "Board of Trustees," "Board of Managers," "Executive Board" etc. It may or may not include the officers of the association, but where it does, the elected officers are also the officers of the board. This is the board that determines disposition of funds and general policy not already determined by the constitution.

Officers

The officers elected are: president, vice-president (sometimes as many as four), secretary (sometimes divided into recording and financial), treasurer, and such additional officers as collectors, receivers, auditors, inspectors, actuaries, medical directors, and various assistants. The term of office is generally for one year, while that of the governing board is usually longer—two or three years,—often with provisions for annual election of one or two members, to allow for gradual change in the

board. Officers that collect, handle, or disburse funds are usually bonded, from $100 to $10,000.

An actuary is elected or appointed by some associations—such as in the Dodge Manufacturing Company Relief Association, one of the most efficiently organized and successful organizations. Here an actuary is elected by the association's board of directors, to "keep informed on all actuarial matters of interest to the association, and exchange actuarial information with similar officers of the associations for the general good of this association."

Committees

The Sick Visiting Committee is found in all associations that do not have an officer detailed to this work. A Finance Committee is usually appointed or elected. An Auditing Committee, or perhaps an auditor is either chosen as a regular officer or standing committee, or is called in at stated intervals for an audit of the books. A Membership Committee is often established to pass upon entrances. Burial Committees sometimes are delegated for that particular function. By-laws and Elections Committees are named for those respective tasks. Social activities conducted by the association are under the supervision of committees on Club House, Entertainment, etc.

Remuneration

When the administration of the association falls upon the members, a considerable amount of time must necessarily be devoted to its affairs. Whether remuneration for such time is allowed depends largely on whether the company permits such services to be conducted on company time. Most of the plans do not specify on this point, and practice varies largely. The usual custom is to allow those officers who are called upon to do most of the administrative work a nominal yearly salary. The White Sewing Machine Company Association pays its secretary and treasurer $25 a year, the Carborundum

Company Association pays its president, secretary and treasurer $100, and its Sick Committee inspectors $25 a year, the Massey-Harris Company pays its secretary and treasurer $25 a year.

A wise safeguard is found in some plans, as in the Twin City Company Association, which limits all administration expenses to a maximum of 8 per cent of the income.

Type II. Associations Administered Jointly by Company and Employees

A. Under this type we have the widest variations, there being no evident concurrence in the plans as to the extent of participation. Each plan is apparently adapted to individual circumstance. In the case of organization with subsidiaries or branches, as the General Electric Company, the plan is to allow self-government within the individual sections, while the company appoints the general chairman and other general officers.

B. In a large number of cases participation of employees and company is divided by having a certain number of members of the governing board appointed by the company, and a certain number elected by the employees. The officers are usually elected with the exception of one or two who are appointed by the company. For instance, the Columbus Railway, Power & Light Company Association has a Board of Trustees—seven elected annually by the employees, and seven named by the president of the company. The president and treasurer are appointed by the Board of Directors of the company, and the vice-president and secretary are elected by the trustees of the Association.

C. In probably the largest number of plans under this jointly-administered type, the administration rests largely with the employees, and the management is represented by some officer such as the personnel director, or the treasurer of the company. For instance,

L. S. Ayres & Company Association chooses its own Board of Directors every two years, and its officers annually, with the exception of the financial secretary, who is the paymaster of the company, and the treasurer, who is the secretary of the company.

D. One type of plan jointly administered has the balance of administration on the company's side. For example, the Mutual Benefit Society of a certain manufacturer of agricultural implements has a Board of Trustees composed of the superintendent, master mechanic, and foremen in eleven departments. The president, vice-president, and secretary are elected annually by the members of the Board of Trustees. The treasurer is appointed by the company.

E. A type not very common is that run by a small committee. The Calumet & Hecla Mining Company plan is administered by a committee of five: the mine physician, one official appointed by the company, and three employees elected by the members annually.

Remuneration of officers under Type II is seldom provided, and is unnecessary, as a rule, since the representatives of the company have charge of the bulk of the work.

Type III. Associations Administered by Company

When the company administers the benefit association alone, the administration is quite simple. Either the personnel director with necessary assistance has charge, or the company appoints a committee for this purpose. The contribution of the company toward the costs of benefit associations of this type is much higher than in the associations not controlled by the company. Many of them are supported entirely by the company, e.g. Hood Rubber Company and Western Union Telegraph Company associations. The John Deere Plow Works pays 75 per cent of the costs of the association; the employees pay dues of 25 and 50 cents monthly, according to

wages. However, in plans such as that of the Perth Amboy Dry Dock Company and the Bourne-Fuller Company, the employees pay all costs themselves.

Funds

A. How Invested

The majority of provisions for disposition of funds of benefit associations state that they must be deposited in a bank, usually to be designated by the governing board. Some cases provide for investment in securities, building and loan associations, stock of the company, loans to members, and some to be deposited with the company In this last case, interest is often allowed. The Western Union Telegraph Company allows 4 per cent interest on the association funds.

B. Contribution of Company

The type of administration is no indication of the source of the funds. Under Type I, for example, the Pilgrim Steam Laundry Company contributes a sum equal to the amount of dues collected from the employees, as does the Craddock Terry Company and many others under Type II.

Company contributions may be made as dues, a part of dues, a supplement to dues or in other forms. Companies often pay the initial organization expenses—the Western Union Telegraph Company spent $1,000,000 for organization of its benefit association. Companies very often help by allowing time off for employees to carry on the administration, and maintain headquarters, paying the overhead expenses, as does the Columbus Railway, Power & Light Company.

A common form of assisting the benefit association without contributing to dues, is by adding to the benefits. When this method is followed, the additional benefits are usually in the form of a bonus for length of service; The Philadelphia Electric Company adds 25 per cent to the death benefits of employees who have been in service five years.

C. Maintenance of Fund

It is naturally the aim of the administrators of the fund to maintain as stable a surplus as possible. This is generally done by provisions for high and low limits—extra assessments when the fund is below the low limit. In some cases guarantee of payment of any deficit is made by the company, as in the case of the Twin City Company. This guarantee by the company tends to give the employee an added insurance covering the safety of his investment. Apparently such backing has not been a poor policy—in fact there is not a case disclosed in this investigation where the employer considered the benefit association as other than a desirable thing for the establishment. The tributes are many—the records of successful organizations are plentiful.

D. Separate Funds

A form of fund which is not very common is that of the National Blank Book Company, which maintains three distinct funds: 1. the benefit fund, consisting of all dues paid in; 2. the expense fund, consisting of special assessments levied when needed; 3. the emergency fund, comprising all net profits from concerts, picnics, and other entertainments given to aid the association. The first two funds are never used except for the purpose stated, but the third fund is available for either of the first two, as needed. Entertainment is used in an number of associations to raise extra funds. The Hardwick & Magee Company allows its Entertainment Committee 10 per cent of the profits of such affairs.

E. Yearly Beneficial Association

A form found in several cases is the "Yearly Beneficial Association," which forms a new association every year. It closes its membership at the start, and then declares a dividend on dissolution at the end of the year, as in the case of the Hardwick & Magee Company.

F. How Surplus Is Used

Another form of disposing of surplus funds is seen in the plan of the United Traction & Electric Company Association.—The Trustees may use the surplus:

1. To pay partial benefits for partial disability
2. To increase regular benefits, or
3. To diminish dues.

An uncommon method of distributing surplus funds is found in the plan of the Bethlehem Steel Company Association, which allows by a majority vote of the association, donations of cash to charitable institutions whose gratuitous services are given to the members of the association.

G. Reinsurance

A method coming more into vogue at the present time is that followed by the Chapman Valve Manufacturing Company, of reinsuring in an established insurance company. In this company dues are uniformly 25 cents a week, the only requirement being a physical examination. Benefits are more liberal than the average.

BENEFITS

Eligibility

WHO IS ELIGIBLE

Many associations allow benefits not only for a member but for his wife, children, and even dependent parents. The Bethlehem Steel Company Association includes all four classes.

LENGTH OF MEMBERSHIP REQUIRED

An eligibility clause is found in more than half of the plans restricting benefits only to those who have been members, of who have been in the service of the company for a stated period. The Flint Vehicle Factories Association requires membership of three weeks to entitle one to disability benefits, and membership for three months for eligibility to death benefits.

Waiting Period

As an additional safeguard, aimed against the support of persons having only a minor illness or none, a waiting period clause is inserted in most plans. This requires that a member must be out sick for a minimum period before he can be eligible for benefits. The usual waiting period is one week. In some plans, as in that of the Carborundum Company Association, if the member is out five weeks, he is paid for the first week also. The American Rolling Mill requires a waiting period of one week, and as an additional safeguard, delays any payment of benefits for four weeks.

Notification

A distinct limit is often specified as to the time in which an employee may notify the association of his disability. The Bethlehem Steel Company Association requires notification by mail to the secretary within seven days. Many associations provide postal card forms for notification, often supplying these with the copies of the association constitution and by-laws. When it is impossible to have the patient visited by the association physician or the visiting committee, a certificate is usually required from the attending physician, as in the Pilgrim Steam Laundry Association. Constant and systematic follow-up eliminates the malingerer. The Sick Visiting Committee of employees is generally very effective in checking this evil.

Effect of State Compensation

The dove-tailing of the mutual benefit association benefits with state compensation is usually clearly stated in the plans. Where the employee pays all costs of the benefits, those benefits are commonly paid regardless of any other compensation, as in the Swift & Company Association. Where this is not intended, it is stated, as in the case of the Twin City Company, where the amount of state compensation awarded is deducted from benefits.

In the case of the Craddock-Terry Association, receiving state compensation disqualifies the member from receiving any benefits. In some plans, on-duty accidents and deaths being covered by state compensation, the benefits cover only off-duty accident, sickness, and off-duty deaths, all of which do not come under the state compensation laws. This is seen in the plan of the United Gas Improvement Company.

Classes of Benefits

Mutual benefit association insurance may cover any or all of the following features:

I. Disability.
   A. Sickness, occupational and otherwise
   B. Accident, on-duty and off-duty
      1. Temporary disability
      2. Permanent partial disability
      3. Permanent total disability
   C. Quarantine
II. Death
   A. By accident, on-duty and off-duty
   B. By sickness
   C. While on pension
III. Birth of children in member's family.

I. Disability

The majority of plans do not differentiate between disability due to sickness or to accident. Where there is only one class of membership, the rate of benefit is stated, as in the plan of the Walter M. Lowney Company Association,—$6.50 a week, maximum twenty-six weeks in one year. The rate is invariably specified as only over a stated period—usually half a year. Some plans, as that of the Carborundum Company, specify a certain amount—$8 for a first period, thirteen weeks, and then a second period, also thirteen weeks, with half benefits. The Massey-Harris Company Association offers $4 for accidents in the shop, provided they have been reported to first aid. The Calumet & Hecla Mining Company also advances $1 a day during the state compensation waiting period.

Free medical services are often provided disabled members as by the Portland Railway, Light & Power Company Association; or sometimes only in case of accident, as by the Philadelphia Electric Company Association.

Few plans allow for permanent disabilities, these being taken care of by state compensation. Notable in this respect is the Swift & Company Association plan—paying benefits for permanent disability from $400 to $3200, according to the class of membership and the loss sustained.

Operation fees are allowed by some associations—as in case of the John Deere Plow Works. Specialists' fees are sometimes allowed—as by the Portland Railway, Light & Power Company. Hospital accommodations are provided by some—the Calumet & Hecla Mining Company provides this, and makes a small charge.

RESTRICTION ON MEMBERS RECEIVING BENEFITS

Members receiving benefits are bound by various rules, among which are the following: reporting to the association physician if possible; not leaving house after sun-down; not moving or leaving the specified geographical limits; not engaging in any gainful occupation; examination by the Visiting Committee, physician or certificate from attending physician or nurse; not engaging in improper conduct, gambling, fighting, bringing suit against company; violation of rules.

II. Death

Death benefits consist of a stated sum varying from $30 to $3,200. This is usually paid at once, on proof of death, to the nearest relative, or a designated beneficiary. In some plans, a special death assessment is collected, as in the Philadelphia Electric Company Association—50 cents from every member, not to exceed $500. In this case, the fund also gives one-fifth of the amount so collected,

and the company contributes $250 if in service five years, with an additional $100 for every year over five, up to $500.

Wives of members are often insured for a less amount than the member—likewise children and dependent parents. Bethlehem Steel Company Association gives $100 for death of a member, $50 for death of member's wife, $25 for death of a child under sixteen, and $50 for death of a dependent parent.

Death benefits often vary according to the date when a member joined, as in the New Jersey Zinc Company Association. The Hartmann Trunk Company provides death benefits from $500 to $1500, according to the length of service. Many associations, like that of the General Electric Company (Schenectady) provide for a tribute of flowers, usually not exceeding $5 or $10.

III. Special Provision for Birth Benefits

This class is not common. The Craddock-Terry Company Association provides birth benefits for children of members—$20 to $40, according to the class of membership.

IV. Annuities

An uncommon form of benefit is that of an annuity to superannuated employees. The Cheney Brothers Benefit Association, carefully planned and highly successful, provides annuities to retired employees, based upon actuarial computations. In this company, annuities are paid to members, as follows: men over seventy years of age and women over sixty, who have been contributors to the fund for fifteen years and are retired from active service with the company; men over sixty-five and women over fifty-five who have been contributors to the fund for fifteen years and are retired from active service because of incapacity of further work; and men or women of any age who shall have been contributors to the fund for

twenty years and who shall have become permanently incapacitated for further work in the service of the company.

Amendments and Dissolutions

Type I

Under the employee-administered type, association plans may usually be amended by a majority, two-third, or three-fourth vote of the members, and dissolved by a similar expression. The Michigan Bolt & Nut Works Association requires the ratification of the company before dissolution. The Twin City Company provides for the appointment of a receiver by the court. The White Sewing Machine Company Association cannot be dissolved until less than twenty-five members wish to continue. The Hardwick & Magee Yearly Beneficial Association provides each year for dissolution at the end of the year, the 1922 plan being automatically dissolved, and a dividend declared on December 8, 1922.

Type II

The jointly-administered type usually requires the consent of both the employees and company to amendments. The United Traction & Electric Company requires a majority vote of the Board of Trustees, a joint body. Dissolution is even more difficult. There are few provisions to this effect, the usual ones requiring the absolute consent of the company, as in the Craddock-Terry Company Association. The General Electric Company, divided into sections, requires a two-third vote of section delegates to pass an amendment, and the unanimous vote of all sections for dissolution; a section remaining while there are ten members in it against dissolution. The Swift & Company Association cannot be dissolved until twenty-one years after the death of the last remaining survivor of the original Board of Trustees appointed by the company.

Type III

The company-administered type is obviously amended and dissolved at the discretion of the company. The Western Union Telegraph Company Association stipulates that the committee of five which administers the body may amend, with the consent of the president of the company.

TYPE I. ADMINISTERED BY EMPLOYEES

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Twin City Company [Minneapolis Steel & Machinery Co.] (Minneapolis) Workers' Benefit Fund Jan., 1917	Physical examination.	1½% of salary. Extra assessments of ½ of 1%, "in emergency." Reduction of dues as Fund increases. Maximum salary computed, $100 month.	Board of Directors, elected by members—3 each year: Pres., Vice-pres. elected by Directors; Sec.-Treas. elected by members, annually.	Directors designate depositary, or investments, subject to approval of Company. Administration expenses not to exceed 8% of income. Minimum treasury $2.00 per member. Company pays deficits; $1,200 for organization. Sec.-Treas. paid.	(a) 75% of wages while disabled maximum 1 yr. State compensation deducted. Total liabilities from one accident, $10,000. Waiting period 1 week. (b) 13 week's wages, maximum $300.	(a) Majority vote of members. (b) Same, to appoint receiver.
White Sewing Machine Co. (Cleveland) Employees' Mutual Benefit Society June, 1878	16 to 55 years old, good health.	Initiation $1.00. Reinstatement $3.00. 25 cents semi-monthly. Dues vary with total assets.	Executive Board (officers and chairmen of Finance and Relief Committees.) (a) Pres., Vice-pres. Treas., Sec., elected annually. (b) Finance, Relief, Membership; elected.	Sec. and Treas. paid $25.00 year.	(a) $10.00 week for 12 weeks, first year; second year, same reduced to $5.00; third year, reduced to $3.00. Waiting period, 1 week. (b) $200.	(a) 2/3 vote of members. (b) When less than 25 wish to continue.

TYPE I. ADMINISTERED BY EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Massey-Harris Co. (Toronto, Can.) Employees' Mutual Benefit Society 1890. (Revised 1919)	None	25 cents monthly. Half members 10 cents. Extra assessments when needed.	Board of Management: (a) Pres., Vice-pres., Sec.-Treas., 2 Auditors, 1 rep. from each dept.; elected annually. (b) Sick visiting.	Deposited in savings bank, or in securities. Officers paid $1.00 per meeting, annually. Auditor paid $5.00 per audit.	(a) Full member—$1.00 per day; half member—50 cents per day; maximum 13 weeks in year. $4.00 week for accidents in shop, reported to First Aid. (b) $120; wife, $60. Half members $50; wife, $25. Must be member 1 year. $60 to pensioned employee at death, if dues paid.	(a) 2/3 vote of members. (b)——. Court to divide assets.
The Carborundum Co. (Niagara Falls, N.Y.) S. I. C. Sick and Funeral Benefit Asso. 1901	3 months' service, election by Board of Directors	25 cents monthly. Extra assessments up to 25 cents, when needed.	Board of Directors: (a) Pres., Vice-pres., Sec., Treas., 5 Directors; elected annually. (3 years' service required.) (b) Sick, Auditing.	Dues reduced when fund reaches $4,000; raised when below $2,500. Pres., Sec., Treas., paid $100 yr. Sick Com. Inspector, $25.	(a) No accident benefits. $8 week, first 13 weeks; $4 week next 13. Maximum 26 weeks, Waiting period 1 week, unless out 5 weeks. (b) $100; wife, $50.	(a) 2/3 vote of members.
Wickwire Brothers, Inc. (Cortland, N.Y.) Employees' Aid Asso. 1901	None	Initiation $1.00. 25 cents monthly, payable every 4 months. Extra assessment $1.00 when needed.	Trustees, chosen by Pres. (a) Pres., Vice-pres., Rec. Sec., Fin. Sec., Treas.; elected annually. (b) Trustees act as Sick Com.; Finance.	Extra assessments when fund below $50. Fin. Sec. paid $50 yr.; Treas., $10. Excursion annually also raises money.	(a) $5 week, maximum 13 weeks in year. Half benefits second year. Waiting period 1 week. (b) $50; wife. $50.	(a) 3/4 vote of members. (b) Same.

TYPE I. ADMINISTERED BY EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Michigan Bolt & Nut Works (Detroit, Mich.) Benefit Asso. 1903. (Revised to 1920)	2 months' service, 18 to 45 years old, good health, vote of members (3 votes can reject.)	Initiation 50 cents. Class I, 30 cents monthly; II, 50 cents; death assessment 50 cents, 25 cents for wife.	3 Trustees, elected every 18 months, and (a) Pres., Vice-pres., Rec. Sec. Fin. Sec., Treas. Sgt.-at-Arms; all elected. (b) Sick Visiting, Membership, Entertainment.	Special assessments by 2/3 vote of members. Officers paid.	(a) Class I—$7 week; II—$12 week. Maximum 10 weeks in year. (b) $100. Wife or husband, $25.00	(a) 2/3 vote of members and ratification by Co.
Belle City Malleable Iron Co. (Racine, Wis.) Employees' Benevolent Asso. [Revised June, 1910]	16 to 55 years old, good health, 2 months' service	Initiation $1.00. 15 cents monthly (25 cents after leaving Co.); death assessments 25 cents. Fine of 25 cents for not attending annual meeting.	3 Trustees elected every 3 years. (a) Pres., Vice-pres., Fin. Sec., Rec. Sec., Treas., 7 Collectors, 3 Auditors; elected annually.	Co. contributes 10 cents monthly per member.	(a) $5 week. Minimum 2 weeks; maximum 13 weeks in year. Waiting period 1 week. (b) $75. If employed at death, Company contributes $50 extra.	(No provision)
Pennsylvania Railroad System (Philadelphia) Mutual Beneficial Asso., Inc.	White employees. (May continue on leaving Company)	Insurance schedule, determined by age, and class insurance; elected	By incorporated Association of employees, licensed by State Insurance Commissioner.	Invested in securities. (Now $165,000; — 3½ times amount required by State Insurance Dept.)	According to insurance carried (provides for death and total disability).	(No provision)
Louisville Railway Co. (Louisville, Ky.) Cooperative Welfare Asso. April, 1920 (consolidated with Relief Asso.)	4 months' service, not an officer of Co., endorsement of 3 members	$1.00 monthly.	By Employees' Association. (b) Investigator, Assistants, General Com.	Deposited in bank. Loans allowed on death benefits.	(a) $1.50 day, maximum 150 days in year. Maximum in one case, $225. Waiting period 1 week. (b) $500; wife, $50; children under 14, $25	(a) Approval of Gen. Com. and Directors of Co. (b) By majority vote of members.

TYPE I. ADMINISTERED BY EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Portland Railway, Light & Power Co. (Portland, Ore.) Employees' Beneficial Asso. [Revised Aug., 1910]	Employees in Light & Power depts. Physical examination.	1½% of monthly salary. (If rejected by physician, may pay 1% and receive accident benefits.)	Board of 15 Managers, elected. Executive Com. of 5 (3 officers and 2 others) (a) Pres., Vice-pres., Sec., Treas.; elected annually.	Fund kept above $6,000.	(a) Medical services, drugs, etc.; ½ pay, maximum 1 yr.; specialist's fee, up to $150. (b) Funeral expenses, maximum $250.	(a) 3/4 vote of managers.
American Rolling Mill Co. (Middletown, O.) Armco Asso. July, 1903. (Revised 1915)	None — Compulsory.	Initiation $1.00. 50 cents monthly.	Board of 9 Directors, elected for 3 years. (a) Pres., Vice-pres., Sec.-Treas., Treas., Asst. Sec.; appointed by Directors. (b) Club, Burial, Finance.	Minimum reserve $3,500.	(a) $6 week. Maximum 39 weeks. Waiting period 1 week. 4 weeks before payment. (b) $100 plus $10 for each year's membership, up to $150 total.	(a) 2/3 vote of members.
New Jersey Zinc Co. (Palmertown, Pa.) Mutual Relief Asso. Sept., 1920	Under 60, good health, residence within 15 miles of Co.	Membership fee 40 cents weekly for first 14 weeks. Joining within a month of hiring, 20 cents, as above. Dues 25 cents weekly.	(a) Pres., Vice-pres., Sec., Treas., Actuary, 6 Directors. (Sec. and Actuary chosen by Directors; others elected annually.) (b) Investigating, Visiting, Auditing.	Funds deposited in bank. Dividends declared, or dues remitted, when "safe to do so."	(a) $2.00 day, maximum one case, 13 weeks, 26 weeks in year (for sickness, accident or quarantine). Waiting period 3 days. (b) $400. (Joining after 45—10% less than above schedule; after 50—20% less; after 55—30% less.) State compensation deducted.	(a) By vote of members. (b) When less than 10 wish to continue.

TYPE I. ADMINISTERED BY EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
United Gas Improvement Co. (Philadelphia) U.G.I. Employees' Asso. March, 1920	1 month's service, approval of membership Com. and Trustees. Physical examination for life insurance.	50 cents monthly, up, according to benefits. Life insurance, 90 cents monthly, up, according to age and amount.	Board of Trustees (18 to 20, elected annually), including (a) Pres., Treas., Asst. Treas., Vice-pres., Sec. (b) Auditing membership, etc.	Trustees may invest in securities, loans, etc.	(a) Daily benefit equal to twice monthly dues, maximum 26 weeks, for sickness and off-duty accidents. (On-duty accidents covered by State Compensation.) (b) Off-duty accidental death, $250. Life insurance—usually $1,000 carried.	(a) 2/3 vote of members. (b) Recommendation of Trustees and majority vote of members.
Bethlehem Steel Co. (Bethlehem, Pa.) Relief & Beneficial Asso. (Revised 1920)	16 to 55 years old, good health.	Initiation 60 cents. 40 cents monthly. Extra assessments for deaths if needed—10 cents for members, 5 cents for wife. Extra assessments up to 25 cents month, when fund is below $6,000.	Board of Managers: (a) Pres., Vice-pres., Sec., Treas.; elected annually by employees, 13 directors, elected for 3 years. (b) "Investigating officer," Auditors.	Dues suspended when fund is $16,000. Kept above $6,000. Funds deposited with Co. Investigating officer and Treas. paid. Surplus may be given to charity.	(a) $8 week, maximum 52 weeks. If members 5 years—maximum 2 years; 10 years—maximum 3 years; 15 years—maximum 4 years. Permanent disability allowances according to schedule. (b) $100; wife, $50; child under 16 years, $25; dependent parent, $50.	(a) by 3/4 vote of members.
National Blank Book Co. (Holyoke, Mass.) Mutual Aid Asso. June, 1920	Over 16 yrs. old.	Dues—45, 65, 90. $1.10 monthly. Expense fund—25 cents assessments when needed.	Executive Board: (a) Pres., Vice-pres., Rec. Sec., Treas., Auditor, 3 Trustees, elected annually. (b) Entertainment, Membership Special Relief, Visiting.	Three separate funds. Benefit (dues); Expense; Emergency (from concerts, picnics, etc.) —available for either of other funds.	(a) Maximum 26 weeks in year, according to dues: 45 cents—$6.00 week 65 cents—$9.00 week 90 cents—$12.00 week $1.10—$15.00 week Maximum insurance 80% of pay.	(a) 2/3 vote of members. (b) When less than 50 members on roll.

TYPE I. ADMINISTERED BY EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Flint Vehicle Factories (Flint, Mich.) Mutual Benefit Asso. Buick Motor Co. Champion Ignition Co. Chevrolet Motor Co. Dort Motor Co. Greissell Bread Co. Imperial Wheel Works, Marvel Carburetor Co. W. A. Paterson Co., Flint Varnish & Color Works Flint Printing Co. Armstrong Spring Co.	Good health.	Class A-1—Men only, salary over $22, 25 cents week. Class A-A. All, salary over $15, 15 cents week. Class A. All, salary under $15, 10 cents weekly. Extra assessments up to 10% a year when needed.	Board of Trustees (representatives from each factory of co-operating companies, elected for 2 years). (a) Pres., Vice-pres., Sec., Treas., elected annually by Trustees, Pres. and Vice-pres. must be Trustees. (b) Committees appointed by Pres. as needed.	Surplus Jan., 1922, $92,500 (23,000 members).	(a) Class A-1, $65.00 monthly Class A-A, $9.00 week Class A, $6.00 week Maximum 13 weeks. Waiting period 5 days. (b) Class A-1, $125 Class A-A, $75.00 Class A, $60.00	(a) By 2/3 vote of members.
Walter M. Lowney Co. (Boston) Mutual Benefit Section of Lowney Cooperative Asso.	Approval of Executive Board.	10 cents weekly	Executive Board: officers and 3 others, elected annually. (a) Pres., Vice-pres., Sec., Treas. (b) Executive Board acts as Investigating Com.	(No provision)	(a) $6.50 week, maximum 26 weeks in year. Waiting period 1 week.	(a) By 2/3 vote of members.

TYPE I. ADMINISTERED BY EMPLOYEES—*Concluded*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Pilgrim Steam Laundry Co. (Brooklyn, N.Y.) Pilgrim Aid Society	Physical examination.	1% of wages plus 2 cents, weekly.	Executive Board (9), including 4 officers. (a) Pres., Vice-pres., Treas. and Rec. Sec.; elected annually. (b) Election, Auditing.	Company contributes sum equal to amount paid by members. Treas. paid $100 year.	(a) Accident on duty: full wages for 12 days, 1/3 wages for 6 weeks, other accidents and sickness—full wages up to 8 weeks. (b) $100.	(a) By vote of members.
Wm. Taylor Son & Co. (Cleveland) Mutual Benefit Asso.	None	Class I—Salary under $25, 25 cents monthly. Class II—$25 to $40, 50 cents monthly. Class III—Over $40, 75 cents monthly.	By Board of Directors, and officers of association.	(No provision)	(a) Class I—$8.00 week Class II—$12.00 week. Class III—$20.00 week. Maximum 8 weeks. Half rates first week. (b) $100.	(No provision.
Hardwick & Magee Co. (Philadelphia) Yearly Beneficial Asso. 1922 plan	Males and unmarried females, 18 to 60. No admissions after Dec. 16, 1921.	Initiation 50 cents, 25 cents semi-monthly. Extra assessments when needed. 1 cent per member for each meeting and committee, for expenses.	(a) Pres., Vice-pres., Treas., Sec., 7 Receivers. Elected annually. (b) Membership (7, appointed by Pres.); Visiting (2, taken from roll in rotation); Auditors, By-laws, Entertainment.	Dissolution each Dec. and dividend declared. Sec. paid $75 year. Receivers paid $15 year. Treas. paid $10 year. Entertainment Com. receives 10% of profits of affairs, remainder to Fund.	(a) $4.00 week for 12 weeks; $2.00 week for next 12 weeks. Maximum 24 weeks in year. (b) $40.00; wife, $20.00; child under 18, $10.00.	(b) Dissolution Dec. 8, 1922

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Columbus Railway, Power & Light Co. (Columbus, O.) Cooperative Beneficial Asso. Nov., 1921	18 to 45 years old, salary under $200 month, good health, "permanently" employed.	Initiation $2.00. 50 cents monthly.	Board of Trustees (14—7 elected annually, 7 chosen by Pres. of Company). (a) Pres., Vice-pres., Sec., Treas. (Prcs. and Treas. appointed by Board of Directors of Company). Vice-pres. and Sec. elected by Trustees. (b) Auditing.	Company contributes ½ of sum collected from members, pays all expenses. Pres. paid $50 year; Sec. paid $120; Treas., $75; other Trustees $6.00 year.	(a) $1.00 daily, maximum 26 weeks in year. (b) Funeral expenses, maximum $150 (Pensioned employees included).	(a) Unanimous vote of Trustees and approval of Pres. of company.
Pillsbury Flour Mills Co. (Minneapolis, Minn.) Benefit Asso. 1920	Physical examination.	50 cents monthly. Re-instatement after non-payment of dues, 50 cents.	Board of Directors. (a) Pres., Vice-pres., Treas., Sec., Chairman of Board of Trustees; appointed by Board of Directors of Company. (b) Board of Trustees (7—6 members elected) acts as Examination Committee.	(No provision)	(a) $15.00 week, maximum $300, waiting period, 1 week. (b) $100. [State Compensation deducted.]	(a) 2/3 vote of officers and of Trustees..

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Hartmann Trunk Co. (Racine, Wis.) Mutual Benefit Asso. (Revised Feb., 1921)	None (Compulsory)	Class A — $1.50 monthly Class B — $1.00 monthly Class C — 50 cents monthly	Executive Committee (3 elected employees and 3 chosen by Company). (a) Pres., Vice-pres., Sec., Treas.; elected. (b) Visiting, appointed by president.	Company contributes 50% of sum collected from members; carries employees during shut-down; carries life insurance free.	(a) Class A—$21.00 week Class B—$14.00 week. Class C—$7.00 week. Maximum 13 weeks in year (exceptions by Executive Com.). Waiting period 1 week. (b) [Life insurance policy, $500 to $1,500, according to length of service, provided for all employees].	(a) 2/3 vote of members and approval of company.
General Electric Co. (Schenectady, N.Y.) Mutual Benefit Asso. March, 1913. (Revised 1919)	1 month's service, 16 years old, recommendation of 2 members, approval of Directors of Section.	Class I—Initiation 50 cents, 10 cents weekly. Class II—Initiation $1.00, 20 cents weekly. Dues suspended when section fund is $400; not restored until fund is $200.	Divided into sections of 150, each with own officers, general chairman and general auditor chosen by Company. (b) Emergency and Death Benefit Fund, under Gen. Chairman, and section chairman. Sections have own officers and Board of Directors, (Chairman, Vice-chairman, Sec.-Treas., and 6 others; elected).	When fund reaches $5,000, no dues collected; restore when Fund is $2,500.	(a) Class I—Male, $6.00 week; female, $5.00 week. Maximum 14 weeks in year. Class II—As above, doubled. Waiting period 1 week. (b) Class I—$100. Class II—$200. Tribute, not to exceed $5.00.	(a) 2/3 vote of all members (vote by section delegates) (b) Unanimous decision of section remains with 10 members against dissolution.
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General Electric Co. (Lynn, Mass.) August, 1902. (Revised 1921)	(As above)	Initiation 50 cents. 15 cents weekly. Extra assessments when needed.	— (As above)	(As above)	(a) $8.00 week, maximum 14 weeks. (b) $150.	(As above)

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
United Traction & Electric Co. (Providence, R.I.) Employees' Mutual Aid Asso. 1902. (Revised 1914)	Non-union employees, (Disbarred on joining a labor organization.)	Class I—Weekly salary under $9.00—10 cents week. Class II—$9.00 to $12.00—15 cents week. Class III—Over $12.00—20 cents week.	Board of Trustees (7—4 chosen by Directors of company; 3 elected by employees annually) (a) Chairman, Treas., Sec.	Surplus Funds may be used by Trustees: 1. To pay partial benefits for partial disability. 2. To increase regular benefits. 3. To diminish dues. (Company contributes: 1. 1/5 of death benefits paid. 2. 1/4 of members' contributions, weekly. 3. Operation expenses. 4. Deficits.	(a) Class I—$4 week Class II—$6 week. Class III—$8 week. (b) Class I—$500. Class II—$750 Class III—$1,000.	(a) Majority vote of Board of Trustees.
(Name withheld) (Makers of agricultural implements.) Mutual Benefit Society. 1890 (Re-1914)	None	Full rate members—over 20 years old—40 cents monthly. Half rate members—under 20—half rate. No dues for pensioned employees.	Board of Trustees [Supt., Master Mechanic, foremen in 11 depts., Treas. (appointed)]. (a) Pres., Vice-pres., Sec. elected annually from Board of Trustees by the Society. (b) Auditing, Sick.	Funds deposited with company at 4% interest. Dues cut in half when fund is $3,000. Company contributes 25% of members' contributions.	(a) Full Rate—$6.00 week, maximum 26 weeks. Extra benefits up to $75 by vote of Trustees. Half Rate—half of above. Waiting period 1 week. (b) $100. [State Compensation deducted.]	(a) 2/3 vote of Trustees. (b) Same.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Calumet & Hecla Mining Co. (Calumet, Mich.) Employees' Aid Fund July, 1877. (Revised 1913)	None (compulsory)	Salary under $30.00 month—25 cents monthly. Salary over $30.00 month—50 cents monthly. Small charges for use of Hospital maintained by Company.	Committee of 5: Mine Physician, 1 official appointed by company, 3 employees elected annually. (a) Treas. appointed by Company.	Funds in charge of Company.	(a) Salary under $30.00 month—$12.50 monthly. Salary over $30.00 month—$25.00 monthly. Maximum 8 months. $1.00 day allowed (50 cents if salary under $30.00) after 6 days, for accident, until State Compensation is paid. State Compensation deducted. (b) $250. Company has group insurance plan also.	(No provision)
Grand Rapids Railway Co. (Grand Rapids, Mich.) Employees' Mutual Protective and Benefit Asso. May, 1911	Non-union employees (disbarred on joining a labor organization).	$1.00 monthly	Board of Trustees: (a) Pres. (Gen. Mgr. of Company or his representatives.) 8 members, 2 appointed by company and 6 elected annually. Sec. appointed by Pres. Treas. elected annually. (b) Nomination, Auditing, Co-operating, By-laws, Club House.	Funds deposited in bank designated by Trustees.	(a) Free medical attention for more than 5 days' illness, $1.50 day, maximum 100 days. Waiting period 5 days, unless out 4 weeks. (b) $500 (joining over 45, $250; over 55, $100).	(a) By vote of members.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Chapman Valve Mfg. Co. (Indian Orchard, Mass.) Mutual Benefit Asso. July, 1921	Physical examination.	25 cents weekly.	Board of 21 Directors (1 appointed by company—others elected annually). (a) Pres., Vice-pres., elected by Directors; Sec., Treas. appointed by company. (b) Executive (officers), Nominating, Sick, Auditing, elected by directors.	Dues plus balance of cost of insurance paid by company to insurance company.	(a) $12.50 week for 26 weeks. (b) In service 1 month —$500 1 year — 600 2 years — 700 3 years — 800 4 years — 900 5 years —1,000 (Paid in installments if totally disabled before 60.)	(a) 2/3 vote of members.
H. Mueller Mfg. Co. (Decatur, Ill.) Employees' Aid Society Jan., 1921	(Employees over 60 not eligible in class over B.)	Class / Week Pay / Initiation / Dues Monthly A $10.00 .50 .35 B 12.00 .60 .40 C 18.00 .75 .60 D 24.00 $1.00 .80 E 30.00 1.25 1.00 F 36.00 1.50 1.20	Board of Trustees (4 members elected annually, and Personnel Supt. of company). (a) Pres., Vice-pres., Treas. Supt. of Relief. (First two selected from Trustees.) Personnel Supt. acts as other 2.	Company takes charge of funds. Company contributes at least $50.-00 monthly, up to 25% of dues paid in; rooms and operating expenses up to $100 year.	Class (A) (Weekly) (B) A $5.00 $50 B 6.00 60 C 9.00 75 D 12.00 100 E 15.00 125 F 18.00 150 Maximum (a) 75 days.	(a) Majority vote of members.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Swift & Co. Employees' Benefit Asso. July, 1907. (Revised July, 1921)	Physical examination and approval of Manager of Association. (Jan., 1922—34,000 members.)	Under 45 Class / Week Pay / Dues (Weekly) 1 $13.50 $0.15 2 $13.50 $0.20 3 $13.50 $0.30 4 $13.50 $0.30 5 $13.50 $0.40 6 $18.00 $0.50 7 $30.00 $0.75 8 o'ver$30.00 $1.00 (Additional death benefits, 5 cents week for $200.) Over 45 45-50—1½ times above. 50-55—1 4/5 times above. 55-60—2 3/10 times above.	Trustees chosen by company. Advisory Committee (15—Treas. of company. Chairman, 7 chosen by company, 7 elected annually). (a) Manager (Sec. of Advisory Com.)—appointed by Trustees of Association. Medical Directors and Examiners.	Funds invested in high grade securities. Company pays expenses of organization and guarantees payments. (Over $2,000,000 paid out since 1907.)	Class (A) (Weekly) (B) 1 $3.00 $200 2 3.00 400 3 4.50 600 4 6.00 400 5 6.00 800 6 9.00 800 7 13.50 1,200 8 18.00 1,600 Maximum (a) 104 weeks, Surgical bills paid for accidents. Accident benefits from $400 to $3,200, according to class, and loss sustained. Waiting period for sickness 6 days. Extra allowances by company for sickness —1 day a month—12 days, full pay, a year, if in service 1 year. Over 1 year service, "more liberal provision." All payments in addition to State Compensation.	(a) 2/3 vote of Advisory Committee and certification by Chairman. (b) Not until 21 years after death of last survivor of Trustees.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
LaCrosse Plow Co. (LaCrosse, Wis.) Aid Society 1897	None (Compulsory)	Class I—30 cents monthly. Class II—45 cents monthly.	Executive Committee. (a) Pres., Vice-pres., Sec., Treas., elected annually. (b) Membership (all foremen). Arbitration (on claims).	Dues suspended when fund is $400. Restored when fund is $200. Company contributes 25% of benefits.	(a) Class I—$5.00 week. Class II—$7.50 week. Maximum 15 weeks in year. Waiting period 1 week, unless out 5 weeks. State compensation deducted. (b) $40.00. Flowers for member or wife. (Company provides group insurance.)	(a) 2/3 vote of members.
L. S. Ayres & Co. (Indianapolis, Ind.) Relief Asso. (Reorganized 1921)	1 month's service.	1% of class of benefits on schedule. Class selected must not pay benefit over 75% of salary.	Board of 7 Directors, elected for 2 years. (a) Pres., Vice-pres., Sec., elected by Directors, Fin. Sec. (Paymaster of Company), Treas. (Sec. of Company). (b) Visiting, Auditing.	Dues reduced when fund is $5,000. Company contributes first 5 years, sum equal to dues, until fund is $2,500.	(a) Maximum 13 weeks in year. Benefits according to class.	(a) 2/3 vote of members.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Minneapolis Street Railway Co., St. Paul City Railway Co., Minn. & St. Paul Suburban R. R. Co., Minnetonka & White Bear Nav. Co. Employees' Mutual Benefit Asso. 1915	18 to 50 years old.	Ages 18 to 45 Class — Max. Monthly Pay — Dues (Monthly) A-A $3.00 $1.35 A 200 1.05 B 100 .75 C 60 .45 Ages 45 to 50 D $300 $1.35 E 100 1.00 F 60 .65	Executive Committee (equal number of employees and officers). (a) Pres., Vice-chairman, Treas., Sec. (b) Benefit and Relief Board (9 employees and 3 officials).	Company contributes amount equal to dues paid, all operating expenses, medical staff, equipment, etc.	Class (A) (B) (Weekly) A-A $17.50 $700 A 14.00 600 B 10.50 500 C 7.00 300 D 14.00 300 E 10.50 225 F 7.00 150 Maximum (A) 52 weeks. Fund pays cost of operations, ¾ cost of operations on member of family, free medicine and treatment.	(No provision)
Craddock-Terry Co. (Lynchburg, Va.) Cooperative Asso.	I. Benefit Members — employees not on "solid time." (Most employees). II. Partial Benefit Members—those on "solid time" (foremen, clerical force, etc). III. Non-Benefit Members—Executives and officials.	I — Married — Salary under $15 week, 10 cents week; salary $15 to $20, 15 cents week; over $20.00 20 cents. Single — 7, 11 and 15 cents week as above. II — 10 cents week. III — 5 cents week.	Board of 14 Directors: (a) Pres., Vice-pres., Sec.-Treas., 2 Directors from each factory, 2 executives of company, and the employment agents. (Employees' officers elected annually.) (b) Relief, Membership.	Company contributes amount equal to dues paid. Company must approve operation and management expenses. (80-85% of 1400 employees members, Feb., 1922.)	(A) I—Married or single, $6.00, $9.00, $12.00 week according to 3 divisions by salary. Maximum 7 weeks in one case—14 weeks in year. (II and III receive no benefits.) Waiting period 1 week, state compensation disqualifies. (B) I—$20.00, $30, $40.00 by divisions. II—$30.00. III—Nothing. Birth Benefits—I, $20.00, $30.00, $40.00 by divisions. II.—$30.00 III.—Nothing	(a) 2/3 vote of members. (b) Majority vote of Directors of company.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Portland Railway, Light & Power Co. (Portland, Ore.) Association of Mechanical Employees. [Revised 1921]	Employees in Mechanical Department, physical examination.	75 cents monthly. Extra assessments of 50 cents twice year. Special assessments for deaths — $1.00 each. [Members rejected by physician may pay dues of 1% monthly and receive accident benefits]	Board of Trustees; officers and 5 elected employees. (a) Pres., 2 Vice-pres., elected annually; Sec. appointed by Trustees; Treas. (Treas. of company.) (b) Finance, Auditing, Entertainment, etc.	Maximum for administration, 5% of monthly dues. Funds deposited in bank. Loans allowed on death benefits.	(a) Free medical services, medicine, etc. $7.00 week, maximum 10 weeks. Waiting period 1 week, unless out 2 weeks. Association has own medical staff. (b) $1.00 from every member. Wife, $100 from fund.	(a) 2/3 vote of members.
Brotherhood of Electric Railway Employees.	"General officers, operating superintendents, inspectors, motormen, conductors and brakemen." After 3 years, inactive membership allowed at leaving company, with only death benefits.	75 cents monthly —minimum, to $1.50, fixed by Trustees, according to needs of association. Extra assessments 50 cents twice year. Special assessments for deaths — $1.00 each	Board of Trustees; officers and 10 elected employees. (a) Pres. (Gen. Mgr. of Railway Dept.); 4 Vice-pres., Sec., Treas. (Treas. of Company.) (b) Auditing, Club, Visiting, etc.	Funds deposited in bank. Sec. paid $12.00 year. Treas. paid $10.00 year.	(a) Free medical services, medicine, etc. Brotherhood has own medical staff. $10.00 week, maximum 16 weeks. Waiting period 1 week, unless out 4 weeks. (b) $1.00 from every member. Wife, 25 cents from unmarried members, 50 cents from married.	(a) Majority vote of Trustees.

TYPE II. ADMINISTERED BY BOTH COMPANY AND EMPLOYEES—*Concluded*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Philadelphia Electric Co. Philadelphia) June, 1907 [Revised 1921.]	Physical examination.	Initiation $1.00, Salary over $200 month—$1.00 semi-monthly. Salary under $200 month—½% of monthly salary, semi-monthly. 50 cents assessment for death, maximum.	Board of 13 Trustees, elected annually, and (a) Supt., Treas., Sec.; appointed by President of company; medical director, auditor, appointed by trustees.	Company pays expenses of management, contributes sum equal to dues, until fund is $25,000; thereafter 50% until fund is $100,000; then 25% until fund is $200,000.	(a) ½ wages, maximum 10 weeks. Extension possible. Medical services free for accident cases. Minimum sick benefits 1 week. State compensation deducted from full wages for accident allowance, maximum, full wages for 10 weeks. Member 5 years with tuberculosis given 1 year's wages. (b) 50 cents per member (maximum $500); 1/5 amount deducted from member's wages, given by fund; $250 from company if in service 5 years; $100 for each year over 5—up to $500, from fund. Wife, $150; child. $75.	(a) By vote of Trustees.

TYPE III. ADMINISTERED BY THE COMPANY

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
Western Union Telegraph Co. (New York City) Employees' Benefit Fund [Revised Aug., 1916]	None	None	Committee of 5, appointed by Directors of company.	Company is custodian of funds, allowing 4% interest. Company contributed $1,000,000 for establishment of fund, amount annually up to 4% of payroll, provides pensions.	(a) Accident—Total disability, full pay for 13 weeks, half pay thereafter. After 6 years, maximum $20 week. Partial disability, difference in earning capacity for 13 weeks, thereafter 50% of this. Free medical aid for accidents. Sickness—In service 2 to 5 years, full pay 4 weeks, half pay 9 weeks. 5-10 years—full 13, half 13. 10 years or over—full 13, half 39. Waiting period 1 week. (b) By accident—3 years' wages, maximum $5,000. By sickness—In service 5 to 10 years—6 months' wages. 10 years or over—1 year's wages. Maximum, $2,000.	(a) By the committee, with consent of Pres. of company.

TYPE III. ADMINISTERED BY THE COMPANY—*Continued*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits (a) Accident and Sickness (b) Death	(a) Amendments (b) Dissolution
John Deere Plow Works (Moline, Ill.) Sick Benefit Fund 1908. [Revised 1917]	All on weekly pay roll (compulsory)	50 cents monthly. 25 cents, if wages are less than 15 cents an hour.	Company has charge of administration.	Employees pay ¾ of cost. Company holds funds, and pays operating expenses.	(a) Sickness only, $1.00 day for 30, 60, or 180 days, according to nature of sickness. Operation fee if in service 1 year. Free medical attendance, 1 visit daily. Waiting period 1 week. Half benefits if pay is less than 15 cents an hour. (b) $100 (if in service 6 months).	(a), (b) At option of company.
—	—	—	—	—	—	—
Group Benefit Association. 1915 [Revised 1918]	3 years' service, under 55 years old, salary under $5,000, and over $1,000 on semi-monthly payroll.	None	Company administers.	Company pays all costs (to insurance company).	(a) Total disability before 60, full death benefit. (b) Amount equal to annual salary, maximum $5,000.	(a), (b) At option of company.

TYPE III. ADMINISTERED BY THE COMPANY—*Concluded*

Company, Plan and Date Established	Eligibility (Requirements)	Dues	Administration (a) Officers (b) Committees	Funds	Benefits	(a) Amendments (b) Dissolution
Hood Rubber Co. (Watertown, Mass.) Jan. 1, 1920	None—(3 months' service to be eligible.)	None	Service Manager of Company. Dept. head passes on claims; with 2 assistants, constitute Advisory Committee of Department.	Company pays all costs.	(a) $8.00 to $12.00 week according to length of service. Maximum salary for 26 weeks in year. Waiting period 15 days. (b) From $200 for 3 months' service, to $1,000 for 5 years.	(a), (b) At option of company.
Perth Amboy Dry Dock Co. (New Jersey) Employees' Accident Benefit Asso. 1901	None	Initiation 50 cents. 10 cents weekly.	By Trustees of Company.	When fund reaches "about" $100, no dues collected.	(a) $5.00 week for 6 weeks. Medical and medicine bills up to $25.00. Minimum disability 1 week.	(No provision)
The Bourne-Fuller Co. (Cleveland) Employees' Benefit Asso. Sept., 1920	Physical examination. (50% of 1,600 employees are members.)	$1.00 monthly. Extra assessments up to $1.00 month.	Service Director as Chairman, 5 Trustees (1 from each factory and plant). Vice-chairman and Secretary chosen from Trustees.	Funds deposited in bank chosen by Trustees.	(a) $2.50 day, maximum $150 year. Minimum disability 6 days. Only 1 week's benefits for occupational accident (covered by State Compensation). (b) Flowers, provided by chairman.	(No provision)

CHAPTER XV

PENSION PLANS

INDUSTRIAL PENSIONS SYSTEMS[1]

Essential Principles

1. No pension system should be started without competent actuarial guidance. The projection into a considerable future of the cost of a pension system is a highly expert task, based upon the scientific collection of the appropriate data, the scientific analysis of those data and a wide acquaintance with pension formulae and experience. It is not fair dealing either with the corporation or with its employees not to forecast, in such an accurate manner, the cost of the proposed pension plan.

The management and stockholders of a corporation are entitled to know whether the corporate treasury is to bear the whole or only a portion of the pension cost, and what this cost will be over a long series of years. The undertaking should be entered upon with a realization of the large expense involved. It may be well worth such an expenditure. But it is unsound business to inaugurate what will necessarily become in time a very considerable item in a corporation's budget with an imperfect knowledge of this fact.

The employees are entitled to a pension system which has set up an actuarial balance over the years in which any one of them can expect to be affected. If the employee is required to contribute to the pension system, this is only honest. Even if the pensions are apparently the free gift of the corporation, and the economic possibility of this for a considerable period is doubtful, the employee is entitled to look forward with assurance to

[1] From a report by the Industrial Bureau, Merchants Association of New York, 1920, covering a study of one hundred and forty-two systems.

the pension promise. A pension promise that is not certain involves an uncertain morality.

The guidance necessary thus properly to establish a pension system cannot be obtained in the corporation's own staff. The problem is not a mere accounting one; it is of a far more complex and scientific order. The somewhat unfortunate experience in the United States in regard to pensions has been due to the superficial character of the investigation which has preceded the establishment of most pension plans,—the mere collection of the rules of a few previous plans framed after similar superficial consideration and selections from them arranged by persons unaware of the fundamental questions involved. Patent fallacies, once started in American pension plans, have thus endlessly perpetuated themselves.

2. One of the fundamental problems is so essential that it is entitled to especial emphasis. This is the problem termed that of the "accrued liabilities." These are the liabilities with which a pension system starts owing to the previous service of employees when there was no pension system. It is always a heavy cost. It must always be met somehow. The handling of it properly requires skilful and scientific management, actuarial knowledge and pension experience. The directors of a corporation can feel certain that a proposed pension plan is amateurish, and therefore inadequate, unless this problem is exhibited in the clearest light and a satisfactory solution offered. No lucky event ever comes to the rescue of a pension system. Unless it starts right, by careful thought beforehand, it is doomed. The "accrued liabilities" are of the essence of this forethought.

3. The legal obligation laid upon the corporation should be carefully considered. The corporation is quite right in providing that it reserves the right to alter the rules, or to free itself entirely from the pension obligation. It should be possible always to utilize experience, even to the extent of abandoning the entire undertaking. But such reservations should always be prospective only,

they should never take effect retroactively. To provide, as is often done, that the corporation may wind up the pension plan at any time without fulfilling the promises already made, and then to expect employees to look forward with confidence and order their lives upon the strength of these promises, is certainly inconsistent. When the economic aspect of pensions is considered, such retroactive power of revocation can hardly be considered as moral.

4. The money of the pension fund should be kept entirely separate from all of the other resources of the corporation. The reasons for this are sufficiently obvious. It follows also that, for similar reasons, the financing on the part of the corporation should take place as early in the existence of the pension system as is practicable. Where promises of future financing take the place of present assets, such promises should be of the most binding character.

5. The solvency of a pension fund is not only dependent upon its original foundation, but also upon the administration after it is set up. The interpretation of the rules will always present difficulties. Wise canons of interpretation are not only conducive to the effectiveness of the pension fund, but are necessary to conform to the original estimates and preserve the actuarial balance. Such canons have been built up in pension experience. The administration should be aware of them. It should also be aware of those slight indications of eccentricity in the experience of a pension fund which indicate years beforehand where modifications are necessary. The modifications can then be made; if the indications are unnoticed, a time is apt to arrive when bankruptcy can only be averted at a great cost.

This means, of course, that a pension system cannot be entrusted merely to clerks. It cannot nominally be administered by a committee of high officials, fully occupied otherwise, and assisted by clerks. It should be administered by competent officials. It is not sound

business to save a few thousand dollars in salaries when the result, if the corporation is large enough, may easily mean liabilities of many millions. The cost of an adequate administration should be included in the original estimates. If the corporation is not large enough to afford the expense of trained pension officials of its own, it should seek such supervisory assistance from other corporations; unskilful pension management is especially dangerous in a corporation of limited resources.

6. A pension system is intended, as one of its primary objects, for the benefit of the employees in relation to their employment. It would seem as if this would be more certain of accomplishment if the pension system were framed in cooperation with representatives from the employees rather than solely by the employing corporation itself.

A pension fund reaches far into the future. This is part of its purpose. A corporation should therefore be very patient in estimating its value. It is essentially one of the things which, if it does exert a beneficial influence upon the morale of the employing force, will do so only very gradually. Before setting up a pension system, a corporation should be very sure that it knows the cost that will thereby fall upon it for a generation, and can bear that cost. If it is satisfied as to these things and does set up the pension fund, it should give to the fund a generation to prove its worth. Pensions are not one of the things that produce an early moral return. Your committee believes, however, that for this very reason the return, when it finally happens, is of a peculiarly high value.

I. Summary of Report

An industrial old age pension system, as its name implies, is a system of pensioning superannuated employees in private industry.

The industrial pension system may be made compulsory by the state—that is, a state industrial pension system—and its cost be paid wholly by the state or wholly

by the employer, or partly by the state and partly by the employer; or it may be a system devised and adopted by the employer upon his own initiative and at his discretion—that is, a private industrial pension system—and its cost be paid wholly by the employer or partly by the employer and partly by the employees subject to its benefits. Although a private industrial pension system provides only for pensions to superannuated employees, nevertheless many systems have incorporated in them or affiliated with them disability and other benefits, and are operated in conjunction with mutual welfare associations of employees.

This report considers only private industrial pensions, and does not in any way concern itself with state industrial pensions, which, at the present time, do not exist in any form in this country, although they have been considered by the legislatures of several industrial states.

At present there are probably in this country between one hundred and fifty and two hundred private industrial pension systems, which, however, do not include the many informal systems of employers whose general policy it is to pension or otherwise assist old employees. Almost without exception these systems have been adopted only by very large corporations. Practically no concerns except manufacturing establishments, public utilities, and banks maintain pension systems, the distribution being as follows:[1]

I.	Public Utilities	
	a. Railroads	28
	b. Transit Companies	12
	c. Gas and Electric Companies	6
	d. Miscellaneous Public Utilities	2
	Sub-total	48
II.	Manufacturing and Commercial Concerns	45
III.	Banks	24
IV.	Insurance Companies	5
V.	Miscellaneous	20
	Total	142

[1] This is the distribution of those actually studied, and is in general indicative of the distribution of all pension plans.

Industrial pensions are by no means of recent origin in this country, as three systems are known to have been established before 1900; the American Express Company, 1875, Baltimore & Ohio Railroad, 1889, and the First National Bank of Chicago, 1899. However, the period of marked increase in the establishment of pension systems has been since 1910 and especially during the years 1915 and 1916. Furthermore, most of the earlier systems have been amended so radically in recent years that, as regular pension systems, they can be considered as of more recent origin. The pension idea first became prominent with the railroads, a number of which adopted pension systems during 1903 or earlier. The latest tendency is seen among the large banking institutions, especially the large banks of New York City.

The fundamental reason underlying almost every pension system is the desire of the employer to assure his employees of independence during their old age, both as a reward for faithfulness and as the best method of performing a duty. A prevalent social theory which the average employer accepts is that an employer should not use the services of an employee during the fruitful period of his life and then heartlessly discard him to the human scrap heap, where he is dependent upon society if he has not been able to accumulate savings from his earnings to care for himself and his dependents during his old age. On the other hand, it is expensive and unsatisfactory to keep an employee who has become inefficient because of old age at his regular position, and it is frequently difficult to find sufficient positions suitable to the capability of or satisfactory to all superannuated employees. The only alternative is to pension them in some way.

In addition to the desire to reward faithfulness or to fulfill a duty, there is usually in the mind of the employer the hope of attaining definite beneficial effects on the efficiency and prosperity of the business. Most prominent among these effects are: increased loyalty of employees and development of their personal interest in the success of the business, which are exceedingly valuable assets to an employer; increased efficiency of individual employees; reduction of labor turnover; attraction of a superior type of employees; decrease—or even elimination—of labor troubles; and increase in thrift of individual employees,—all of which are more or less related effects. However, a careful study of the pension systems shows that these effects are not produced to a material extent.

In the installation of pension systems there are two outstanding problems. The first problem is the non-technical one of enlisting the sympathetic interest of employees in the system; and the second problem is the technical one of assuring in advance continued financial solvency of the system and ability to meet all possible demands. The first is a management problem; the second is an actuarial and financial problem.

Employees are not as a rule enthusiastic about or appreciative of any benefit which they receive solely as a gift from the employer given at his initiative and without consulting their wishes. This not only constitutes a problem for the employer who seeks to obtain increased loyalty and appreciation from employees by the installation of a pension system, but also for the employer whose chief motive is to provide adequately for employees during their old age. It is to the interest of the employees to understand the real purposes and the benefits of the pension system, otherwise they will fail to protect their own interests in the matter. Without the intelligent interest of employees a pension plan cannot be made an entire success from the standpoint of either employer or employees.

The intelligent interest of employees can be obtained in two ways: in the first place by obtaining their wholehearted endorsement before installing a pension system,

and by cooperating with them in framing the provisions and operating the system after installation; and in the second place, by making it in fact a system of the employees through financial contributions by them. The lack of success of pension systems is due in no small degree to the fact that they are usually autocratic and paternalistic rather than democratic and cooperative.

In theory, contributory systems are logical. Every man owes it to himself, his family, and to the public to provide to the extent of his ability for old age. On the other hand, it is a reasonable philosophy that industry should care for its human wastes and that the employer should not use the worker during the fruitful years of his life and then discard him to a dependent old age. It is also becoming recognized that the employer should pay a wage sufficient for the employee to maintain a standard of living in conformance with American ideals and to provide for old age; or in other words, sufficient to enable the employee to contribute to the old age pension. On the other hand, if the employee is unwilling to provide for old age, there should not be placed on the employer the sole obligation of caring for him after superannuation.

In practice the non-contributory system far exceeds the contributory system in number, and in individal cases may be more desirable. Its more extensive use is due to the fact that employers are willing to finance the pensions alone either because they hope to obtain increased loyalty and efficiency to offset the cost or because they desire to reward faithful employees for long continued services. However, experience has shown that pension systems have not resulted generally in increased loyalty and efficiency, and that as a rule employees do not appreciate a pure gift as much as they do the benefits of something to which they contribute. There is therefore a question whether the employer whose employees will not approve a contributory system has much to gain directly by installing a non-contributory system; this is a question which can be answered only by the individual employer in the light of conditions actually existing among his employees. Of course, the question of direct benefit to the employer does not necessarily enter if his motive is to reward faithful employees.

There is some consideration among employers of the possibility of a non-contributory system in connection with savings plans, giving the advantage of a contributory system and appealing more to the employees than a contributory system. Young employees especially would be more interested thereby. Under any plan, the contributions of employees should be considered savings to the extent that in case of discharge or resignation they be returned with interest.

The pension system which does not assure a pension to each employee when he becomes superannuated, is unfair to the employee. Most pension systems are weak in this respect.

A definite system rather than an informal year to year policy should be adopted if the employer expects to receive any valuable results or if he leads his employees to expect a pension. Not only is this true, but such a definite system as is adopted should be actuarially sound and without question one which can be maintained by the resources of the employer for new employees as well as for old. It should be realized that for the first few years the amount of pensions paid out will probably increase rapidly. This has not been realized in the case of many pension systems, especially those for teachers and other public employees. A system which depends upon a vote by the directors of the employing corporation to lay aside from the profits of the enterprise each year sufficient funds to meet such pension payments which have become due during the year, is fundamentally unsound; the system should be maintained on a scientific insurance basis, whereby for each employee there is con-

tinually laid aside a proper sum to provide for the pension at the time stated. Even under such a scientific system the employer should realize that there will be a heavy demand upon the pension reserve within the first few years when the older employees, for whom no funds have been allocated to the pension reserve, must be pensioned. To meet this, the employer must determine what pension reserve must be created at the time the pension system is installed, in order to provide for these early demands.

The best practice, which, however, is far from typical, calls for the development of a permanent pension fund kept separate from the regular assets of the business in such a manner as to protect it from creditors in case the company meets financial difficulties. At least, in the case of a contributory system, the contributions of employees should be completely protected.

The employer who desires to pension employees upon retirement but for any reason does not find it desirable to install a regular pension system, will find the plan of purchasing annuities, in conjunction with or without death and disability group insurance, worth careful attention.

II. Usual, Important and Necessary Provisions

Administration [1]

Most pension systems are managed by a special board or committee frequently called "Board of Pensions," although not a few are managed by the board of directors, the president of the company, or some other officer. The problems of management of pension systems are very much greater in the case of large corporations such as railroads, employing thousands of men, than in the case

[1] The following summary table has been drawn up to show the source of funds and administration of the one hundred and forty-two pension plans studied.

of banks and other business concerns employing relatively few men; and possibly this explains why almost every railroad and most large industrial systems are managed by special boards, while those of banks are frequently under the supervision of the Board of Directors or the president.

Ordinarily there is no provision concerning the personnel of the pension board. In the case of railroads, however, it is often stated that the pension board shall consist of the general manager, chief counsel, auditor, medical officer, and such executives as the superintendent of motive power, division superintendent, and the superintendent of maintenance.

There is seldom any provision for employee representation on the pension board, unless the pension system is a contributory one.

Administration	Source of Funds				
	Initial Fund by Company	Annual appropriations by Company	Contributory by Co. and employees	Not stated	Total
By Company alone	18	76	9	6	109
By Company and elected employees	..	4	7	..	11
By Company and appointed employees	1	12	1	..	14
Not stated	..	8	..	..	8
Total	19	100	17	6	142

Inasmuch as the provisions of pension systems, if properly drawn, are comprehensive, definite, and inelastic, the management of a pension system consists, for the most part, of routine administration and of making necessary reports concerning the condition of the system and recommendations of changes. Special cases and cases of disability, however, often call for discretion on the part of the pension board.

Sources of Funds

One of the most important problems in connection with a pension fund is that of assuring adequate revenues to meet the financial burden involved. For this reason it is amazing that ordinarily there is no definite provision made by the employer providing for adequate financing of his pension system. Practically no banks have any definite method of financing their pension systems, and the same is true of most small and large industries. On the other hand, nearly all railroads and many large industrials have an adequate method of financing.

Usually the important matter of providing funds is cared for in the provisions of pension plans by the mere statement that the company will grant pensions without contributions from the beneficiary, or that the necessary appropriations will be made from time to time, or that pension payments shall be treated as regular and necessary operating expenses. In other words, most pension systems are operated on a cash basis with no limitations to the possible demand upon the company's funds and no provision for accrued liabilities arising from employment of men who eventually will be pensioned. Under such a system the employee is not certain of a pension when he is entitled to it, but he will receive it only in case of continued prosperity of the employer. In fact, some pension plans state definitely that pension rates will be reduced in case of insufficient funds available.

A few companies provide for a possible shortage of funds available for pensions by a provision limiting yearly pension appropriations to a definite maximum sum or to a maximum percentage of operating expenses or to a maximum percentage of the payroll.

It should be noted that, in the case of large companies operating pensions on a cash or current basis, careful and scientific investigations have usually been made to determine the maximum financial demands to be expected. In the majority of cases, however, the employer

undoubtedly has little idea of the future pension payments he may be called upon to make.[1]

Some pension systems provide that the employer shall add a definite sum each year to the pension fund. This may be either a stated amount or a stated percentage of the payroll. The amount of such annual payments is undoubtedly arrived at, in most cases, after a study of the probable future demand for pensions.

About a score of concerns—large corporations in most cases—have regular funds under which a pension system can be operated on a scientific insurance basis. Such funds are developed in three ways: (a) by the creation of an initial fund sufficient to carry pensions without further appropriations;[2] (b) by the creation of an insufficient initial fund, to which are added the necessary appropriations;[3] and (c) by setting aside from

[1] It is impossible to make a general statement concerning the cost of a pension system to the employer, as the cost depends not only upon the retirement allowances granted but also upon labor turnover, which varies from plant to plant and from year to year. Neither is the experience of employers a dependable guide, as comparatively few pension systems have been in effect long enough to have reached the maximum expenditure. During the investigation covered by this report, attention was called to only one company in which the pension costs amounted to over 3 per cent of payroll. The costs in the companies investigated varied in general from .1 per cent to 3 per cent of payroll, but most of the companies reporting less than 1 per cent anticipated a larger percentage in the future.

With the retirement allowances and conditions of retirement given, and with data concerning the labor turnover in the plant during the past twenty years, it would be mathematically easy to determine the maximum payments, provided the labor turnover did not change materially.

[2] The United States Steel Corporation is the only company which has such a fund. This fund amounts to $12,000,000, of which $8,000,000 was contributed by the company and $4,000,000 by the Carnegie Relief Fund.

[3] The following companies have an inital fund to which is added an annual appropriation to restore the fund to its original size: American Telephone and Telegraph Company, Western Union Telegraph Company, American District Telegraph Company, Western Electric Company, Holmes Electric Protective Company.

The following companies have a stated or maximum contribution to the initial fund: Solvay Process Company, Union Pacific Railroad, Illinois Central Railroad, Southern Pacific Railroad, San Antonio and Arkansas Pass Railroad, Houston & Texas Central Railroad.

The following companies have no stated amount of contribution to the initial fund: Swift & Company, Westinghouse Air Brake Company, Standard Oil Company (New Jersey), American Sugar Refining Company, Union Trust Company.

current funds regularly more than current demands require until a sufficient permanent fund is created.[1]

In the case of contributory systems one company[2] has an original fund, to which appropriations are added, and another[3] has created a fund by stated yearly appropriations. In most contributory systems, however, the employer makes no more definite arrangement for contributions than to provide for regular or irregular, but indefinite,[4] appropriations. Three companies[5] contribute dollar for dollar with the employee.

Comparatively few pension systems are contributory on the part of the workers, and in only one field—banking—does the contributory system approach the non-contributory system in number.

Employees' contributions to contributory systems are, without exception, on a monthly basis and vary from 2 per cent to 4 per cent of the employee's salary or wage. In the case of banks, 3 per cent is almost universally the rate of contribution, and it is the typical rate in all business. In a few cases the contribution is not a uniform one but varies directly, even though slightly, with wages or with age upon entrance in service.

Contributory systems are usually compulsory on new employees, but frequently they are optional with employees who were with the company before the adoption of the pension plan.

Eligibility

There is seldom any qualification for membership other than that the employee be a regular full-time worker; officers are usually included. A number of systems,

[1] The Union Savings Bank & Trust Company has created its fund in this way.

[2] Speyer & Company.

[3] Morris & Company.

[4] The following fall into this class: First National Bank (New York City), First National Bank of Chicago, Bankers Trust Company (New York City), First and Old Detroit National Bank, Live Stock National Bank (Omaha).

[5] Hibbard, Spencer, Bartlett Company, Guardian Savings & Trust Company, and Pittsburgh Coal Company.

however, do not apply to "officers or persons on salary" or "employees paid on yearly basis" or employees in the salary class receiving more than a certain amount, frequently placed at about $2,500. In companies where a mutual benefit association is maintained, membership is sometimes a necessary qualification for participation in pension benefits. Many companies have deemed it wise not to make pension systems applicable to employees entering service at forty years of age or over. Very seldom is there any provision which allows the employer to except any employee from the pension benefits.

Basis for Retirement

Practically without exception, retirement is based on both length of service and age of employee.

Length of Service

The length of service qualifications for pensions nearly always consist of a specific minimum length of continuous service for all employees, although in a few cases a distinction is made between classes of employees. Occasionally, a shorter length of service is required of female employees than of male.

There is no such uniformity in the length of service requirements as there is in age requirements. On account of the relatively great number of pension systems in industrial establishments, twenty years, which is the typical length in such plants, is the most common for all business. However, even in industrial establishments fifteen- and twenty-five-year periods are both common, and there are a few as low as ten years. The railroad plans provide for shorter periods, being about equally divided among ten-; fifteen-; and twenty-year service requirements; but in this connection it should be remembered that the retirement age with railroads is usually as high as seventy years. Traction companies usually have a twenty-five-year term of service requirement. In

banks the average term of service is short, usually being only fifteen years.

Age

With the exception of banks, the typical pension has both compulsory and optional ages of retirement. The age of retirement varies widely, but seventy years is the most frequently designated age of compulsory retirement, while the age of optional retirement, if there is one, is usually five years lower than the age of compulsory retirement, and retirement ages for women are from five to ten years less than those for men. Instead of a lower age of optional retirement, railroads, and traction companies, in the majority of cases, have an incapacity age. Many systems allow a lower age of retirement in individual cases at the discretion of the pension board.

Seventy is almost universally the age of compulsory retirement in traction companies, while in a few cases, optional retirement at sixty-five years is provided for. Age is rarely a requirement for total disability allowances, which usually depend on length of service. Special provision is seldom made for women.

Seventy is likewise the common age of compulsory retirement in railroad companies, although several railroads compel employees to retire at sixty-five years. A third of the railroad companies with compulsory retirement at seventy years provide for voluntary retirement at sixty-five years. Of eight railroad systems with retirement ages for disability, six are at sixty years and two at sixty-five years, while the length of service is a factor in only one case. No special provision is made for women.

While seventy years is also the typical age of compulsory retirement in industrial establishments, seven out of twenty such systems provide for compulsory retirement at sixty-five years[1] and one as early as sixty years.

[1] Two systems have been amended to eliminate compulsory retirement at sixty-five years.

For women, fifty-five and sixty are the common ages of compulsory retirement. However, the majority of pensions in industrial establishments do not provide for compulsory retirement. The ages of optional retirement vary from fifty-five to seventy years;[1] in twenty-nine industrial establishments sixty-five is the retirement age in fifteen cases, sixty the age in ten cases, and seventy and fifty-five each the age in four cases. Thus, not only is sixty-five years rather than seventy years the most common age of retirement, but sixty years is more common than seventy years, and fifty-five years is as common. Occasionally, extra periods of service are required for retirement at the lower ages. For women, fifty, fifty-five and sixty years are all usual ages of optional retirement, with fifty-five years more frequently used than either fifty or sixty years. A number of industrial establishments may grant retirement allowance upon special request before the optional age is reached, and many of them have retirement ages varying with length of service, six of them having no age limit for thirty years' service. Ages for disability retirement are practically unknown in pensions of industrial concerns.

Determination of Amount

With relatively few exceptions, the pension allowance is a stated per cent of the employee's salary at age of retirement—or average salary for a definite period preceding—multiplied by each year of service. The length of service does not always enter into the actual computation, as the entire allowance may be a flat per cent of the pay at the time of retirement—or the average salary for a preceding period.[2] In practice this second method yields about the same result as the first, as the percentage used is likely to be the equivalent of the percentage in the first method multiplied by the number of

[1] Two systems have been amended to reduce the age of optional retirement from seventy to sixty-five years.

[2] Three systems have been amended so that the ten years of highest pay rather than the preceding period, is the basis.

years of service necessary to qualify an applicant. The first system yields a better return to an employee who does not retire until after the regular term of service has expired. In order to make the second method as equitable as the first for the employee working beyond the retirement age, some such plans provide for additional retirement allowances for extra long service.

In a very limited number of plans the retirement allowance is a flat sum[1] or varying stated sums for various classes of employees. A stated per cent of total pay received is also used occasionally.

In non-contributory systems the retirement allowance varies from 1 per cent to 2 per cent of salary at age of retirement or of average salary for the preceding period for each year of service. Of fifty-seven non-contributory systems studied, forty have a 1 per cent rate, four a 1½ per cent rate[2] and thirteen a 2 per cent rate. The railroads, practically without exception, have a 1 per cent rate. Nearly every bank has a 2 per cent rate. In both industrial establishments and traction companies 1½ and 2 per cent rates are more common than with the railroads, but the 1 per cent rate is several times as important—in number of systems—as the 1½ and 2 per cent rates combined.

In those pension systems which provide for a flat percentage rate rather than for a per cent for each year of service, the actual pensions paid, expressed in per cent of salary for each year of service, are about normal. Of the plans studied three have a flat 30 per cent rate, which, for an employee working the typical period of twenty years, amounts to a normal 1½ per cent rate; one has a flat 50 per cent rate, or the equivalent of normal 2 and 2½ per cent rates for twenty-five and twenty year employees respectively; while another has a flat 75 per cent

[1] A prominent example of this is the new system of the Midvale Steel & Ordnance Company, inaugurated July 1, 1919, under which there is a uniform pension of $30 a month.

[2] Two of these formerly had a 1 per cent rate.

rate, or the equivalent of normal 3 and 3¾ per cent rates for twenty-five and twenty year employees respectively.

Two systems have different rates for various lengths of service and several systems have a higher rate for each year of service in addition to the regular period. In all these systems the actual rates, are equivalent to normal rates of from 1 per cent for minimum periods of service to 2 per cent for thirty years' service.

Banks with contributory systems all pay 2 per cent, which is not higher than the rates of those with non-contributory systems. There are not sufficient contributory systems in industrial establishments to warrant generalization; three of such systems pay respectively $15 per month plus $75 funeral expenses, 50 per cent average salary, and 2½ per cent average salary for each year of service.

In about one-half the pension systems the regular rates are modified by maximum or minimum yearly pensions or both.[1] The maximum and minimum figures both vary so widely that no generalization can be made. In industrial establishments the maximum limits vary from $500 to $5,000 per year, and the minimum limits vary from $144 to $244 per year. In banks the maximum limits vary from $1,800 to $6,000 per year. In some cases the limit is a maximum salary upon which a pension is computed. In other cases it is a maximum per cent of highest salary, in which case the figure is usually from 60 to 75 per cent, so that few employers are actually affected by it, because even under a 3 per cent rate, more than a twenty-year period of service at least is necessary to reach the maximum rate.

Disability Allowances

The majority of pension systems have disability provisions. In most cases permanent and total incapacity

[1] Several systems have been amended by the adoption of minimum and maximum rates, as well as by increasing these rates.

is a requisite for disability pension allowance. Except in banks, disability provisions apply only after long years of service,[1] and in the case of railroads especially, the period of service necessary for disability allowances is as long as for pensions. Usually disability is practically a substitution for an age limit.

Qualification for Disability

Many concerns either maintain separate disability systems or provide for disability, both permanent and temporary, through mutual benefit associations. Also in many states workmen's compensation laws have eliminated any need for provision for disability incurred in performance of duty.

In most cases incapacity, for the purpose of eligibility for disability allowance, is determined by the pension board. A physician's examination and report are frequently required as proof of incapacity. In many systems there are provisions providing that no disability allowance shall be paid for incapacity resulting from immoral or intemperate living.

Determination of Amount of Disability Allowance

In a great majority of cases, disability allowances are paid at regular pension rates, although frequently they are granted at the discretion of the company. In some cases special pensions are paid, the amount not being determined in advance. In a number of instances there are special rates, of which the following are examples: 50 per cent of last year's salary for a period of ten years; 60 per cent of last year's salary for a maximum period of ten years; or a decreasing amount such as full salary for one month, 80 per cent for one year, and 60 per cent thereafter. Frequently the period of disability payments is limited to the length of service.

[1] There is a tendency to shorten the terms of service and remove the age qualification.

Provisions for Dependents of Pensioners

Except with railroads, it is fairly common to provide pension payments for dependents of deceased pensioned employees. A little less than half the banks provide whole or half pensions for dependents during the period of dependency. One-half the industrial concerns pensioning employees likewise provide for dependents, although frequently such action is taken only at the discretion of the directors and payments are made for a definite period, sometimes as short as one year, rather than during the entire period of dependency.

Practically without exception there are rigid rules governing the eligibility of dependents for pensions and the termination of pension payments. Dependency is usually confined to dependent widows and children, and the marriage or birth, as the case may be, must have taken place before the period of retirement of the pensioned employee. Payments to dependents cease to the widow in case of remarriage and to minor children after arrival at a certain age, usually 16 or 18 years, or upon marriage.

Death Benefits or Insurance, Included in Pension Plan

About one-third of the banks and seven industrial establishments and railroad companies provide in their pension plans for death benefits, and a few carry life insurance for their employees. Undoubtedly, many other concerns made it a practice to grant death benefits informally, but they do not provide for such in their pension plans.

Refunds

In the case of contributory systems, of course, there is always provision for refund in the event of cessation of employment. In no non-contributory system is it considered that the employee has sufficient of a moral right to accrued pensions to warrant the employer in

making a payment to an employee leaving his employment. In case of death, under contributory systems, refunds with interest are always made; in case of dismissal, refunds with and without interest are made to about an equal extent; while in case of resignation, most refunds are without interest, one is with interest, two are with lower than normal rate of interest, and one is optional with the employer.

Miscellaneous Provisions

In almost all pension plans it is specifically stated that pensions are not assignable and cannot be attached.

Usually, retired employees are allowed to obtain other employment not prejudicial to the interests of the company. Frequently, however, permission to enter such employment must be received from the company.

Not infrequently pension systems provide specifically that cessation of employment, for no matter how short a period, nullifies the past period of employment as a part of the required period of service necessary to qualify for a pension. Occasionally, cessation of employment due to absence of the employee on strike is mentioned specifically as constituting a break in the period of service from the standpoint of pension qualification.[1]

Amendments

In general, amendments to pension systems have been for the purpose of reducing age and service qualifications, and increasing allowances. At present, there seems to be a tendency to provide for pensions for dependents of deceased pensioners, and to consider incapacity as well as old age qualifications for pensions.

[1] On the contrary the new Midvale Steel & Ordnance Company system has the following provision: "Dismissal, voluntary withdrawal from the service by reason of absence in excess of the above prescribed limitations, followed by reinstatement in the service within two years, shall not be considered as breaks in the continuity of service, but the time thus lost shall be deducted in reckoning the length of service."

III. The Success of Pension Systems

The chief question in the mind of an employer who is considering the installation of a pension system is: "Have systems already in operation proved successful?" This is a difficult question to answer, as different persons interpret success in this matter variously. Some light can be shed upon the situation by showing whether or not individual pension plans have accomplished the specific results sought. In other words, have pension systems brought about increased loyalty and appreciation on the part of employees, tended to quiet industrial unrest, reduced labor turnover, promoted efficiency, fostered individual thrift, or attracted a superior grade of workers? Above all, have they improved the economic status of workers by assuring an independent old age?

The consensus of opinion of employers now operating pension systems seems to be that while in general employees show some appreciation of future pension benefits, such appreciation is not marked except in the case of old employees; and furthermore that pension systems do not have any appreciable effect in bringing about increased loyalty, continuance of employment, efficiency or industrial peace. It is probably not misleading to say that young and unmarried workers, especially of the lower grades, give little thought to pension systems, but that the benefits do appeal to the older, married, and skilled or clerical workers; and accordingly the results of pension systems are evident only in the case of employees who are approaching middle age.

Few employers maintaining pension systems have very definite ideas concerning the effect on their employees. This is due largely to the fact that it is difficult to distinguish the results of pension systems from the results of so-called "welfare work" or plant conditions in general. However, it is clear that most employers maintaining sickness and disability benefits, assisting in

supporting employees' mutual benefit associations, conducting welfare work or offering bonus payments or similar incentives for efficient operation, in addition to making old age payments, believe that the effect of the latter upon loyalty, efficiency and continuance of employment is relatively unimportant.

In answer to the question, "Have your workers manifested appreciation of the benefits of your pension system," fifty-eight employers replied as follows:

Yes	27
Yes, especially by older employees	7
Approved by the older employees	4
Appreciated to a slight extent	13
No	5
No, except by older employees	2

While about half the employers state that their employees manifest appreciation of the pension, this should not be interpreted to mean that in half the plants having pension systems the employees in general—that is, a majority in each case—are appreciative, for undoubtedly such is far from the case. From the nature of the replies received, it is evident that many employers answered to this question an unqualified "yes" on the basis that appreciation had been shown by individual employees. Further questioning would doubtless bring out the fact that the employer had no accurate knowledge of the extent that such appreciation pervades his working force, and that the appreciation is confined to a minority, the majority being indifferent. In any case the replies would suggest to one examining them that tangible evidence of appreciation has usually been shown in isolated cases only. The above analysis of opinions also indicates that this evidence of appreciation is confined chiefly to the older employees to whom alone of the employees in general the rewards appear to be tangible and certain.

It is interesting to note that nearly 23 per cent of the employers believe their employees feel only slight appreciation, while nearly 10 per cent believe appreciation is entirely lacking.

In answer to the question, "Do you think that your pension system has had a material effect in promoting efficiency of your employees, particularly in that it has eliminated their worries concerning the future?" replies were received from fifty-nine employers as follows:

Yes	19
Has with older employees	8
To a slight extent	9
Probably not except with old employees	1
Probably not	12
No	10

These replies show that the claim that pension systems bring about increased efficiency by increasing appreciation and loyalty of employees and by eliminating their worries is without much foundation. Nearly 20 per cent of the employers questioned are certain no increased efficiency results, while as many more believe that probably such is the case. Furthermore, very few of the nineteen employers (less than one-third of those replying), who believe that increased efficiency has resulted appear to base such belief on facts and some admit that, while they feel sure the increased efficiency is present, there are no tangible evidences of it.

This failure to produce increased efficiency can be traced to the fact that in general pension systems appeal only to employees who have grown old in their present employment. These employees usually constitute a relatively unimportant part of the entire working force and their habits of efficiency, like all other habits, have become more or less fixed.

In answer to the question, "Has your pension system increased the average permanency of employment of your employees, that is, has it reduced labor turnover materially?" replies are as follows:

Yes	11
Does with old employees beyond middle life	8
Does with certain types of skilled workers	1
Probably to a slight extent	13
Probably to a slight extent with older employees	1
Probably not to any extent	11
No, except with older employees	2
No	10

As might be expected from the fact that pension systems do not in general create appreciation, loyalty and efficiency, neither do they develop materially permanence of employment except with the older employees. In this connection it occurs to one that labor turnover is ordinarily very small among middle-aged employees who have worked for a number of years for their present employer.

In answer to the question, "Do you think that your pension system has decreased industrial unrest on the part of your employees, or has had any actual effect in preventing strikes or other labor troubles?" replies are as follows:

Yes	7
Yes, among older employees	3
Probably to a slight extent	10
Probably not to any extent	10
No, except among older employees	1
No	31

These replies are especially interesting because of the rather prevalent opinion, particularly of organized labor, that pension systems constitute one of the weapons with which the employer attempts to coerce employees in times of impending strikes. It is evident that as a means of preventing industrial unrest which culminates in strikes, the old age pension is even less successful than in producing appreciation, loyalty, efficiency and permanence of employment. This is not surprising. It is not to be expected that old age pensions will furnish a sop to prevent workers from striking on what they believe to be a question of principle or of unfair treatment. On the other hand, middle-aged workers who have long been

in their present employment and who alone constitute the men whose views and actions might be materially altered by the expected pension benefits, form the conservative element among the workers. Precipitous, unwarranted, questionable or undesirable strikes, which are the only type a pension system can be expected to prevent, would in any case be opposed by such men at least passively. However, as a practical matter in the case of such strikes the older and conservative element is likely to be entirely silenced by the younger and more radical workers. Hence beneficial effects of a pension system are seldom made manifest during times of labor trouble.

In answer to the question, "Does the anticipation of a pension which will provide the necessities of life induce thrifty habits in the employee in order that he may enjoy additional comforts, or does it encourage extravagance?" most employers state that pension allowances are usually so small and the time of retirement so remote as to have no effect whatsoever on established habits of thrift or extravagance. While some employers believe pension systems are conducive to thrift to some extent, no employers appear to feel that pensions in any way promote extravagance.

As a means of improving the economic conditions of employees, which will meet the approval of workers as expressed through organized labor, the privately-maintained old age pension has met with little success. Organized labor, while endorsing old age pensions for Federal employees and favoring old age benefits maintained by national unions, is unalterably opposed to the payment of industrial old age pensions by employers. Organized labor believes that the purpose of the old age pension, like that of profit-sharing, relief associations or welfare work, is to make the man satisfied with his lot and to hold him on his job. Furthermore, to the minds of the labor people its purpose is to discourage employees from joining the union by offering instead an indepen-

dent old age, thus enabling the employer at the same time to dictate the wages and working conditions. For these reasons, organized labor claims that the better way of assuring an independent old age for employees would be to pay them higher wages, from which they could retain sufficient savings.

Although it is evident that private industrial pension systems in effect in this country have fallen far short of producing results often claimed by their enthusiastic supporters and hoped for by many employers installing them, nevertheless most employers consider them successful. The answer to this apparent riddle is that, after all, the employer in inaugurating a pension system is chiefly interested in assuring a comfortable old age to such employees as grow old in his employment. The moral obligation which the average employer assumes is fulfilled through an old age pension system and, therefore, the employer considers it successful.

CONCERNS HAVING EMPLOYEE PENSION PLANS[1]

Railroads

	DATE OF ESTABLISHMENT
Atchison, Topeka & Santa Fe Railroad Co.	1907
Atlantic Coast Line Railway Co	1904
Baltimore & Ohio Railroad Co	1889
Bessemer & Lake Erie R. R. Co. (See U.S. Steel Corp.)	
Buffalo, Rochester & Pittsburgh Railway Co.	1903
Canadian Pacific Railway Co	1903
Chicago & Northwestern Railway Co	1901
Chicago, St. Paul, Minneapolis & Omaha Railway Co.	1906

[1] This list, originally part of the report of the Merchant's Association, has many additions by the editor of this book.

	DATE OF ESTABLISHMENT
Delaware, Lackawanna & Western Railroad Co.	1902
Grand Trunk Railway Co. of Canada	1908
Great Northern Railway Co.	1916
Houston & Texas Central Railroad Co	1903
Illinois Central Railroad Co	1901
Minneapolis, St. Paul & Sault St. Marie Railway Co.	1910
Nashville, Chattanooga & St. Louis Railway	1914
New York Central Lines	1910
New York, Chicago & St. Louis Railroad Co	1914
Norfolk & Western Railway Co.	1917
Pennsylvania Railroad	1900
Philadelphia & Reading Railway Co	1902
Rock Island Lines	1910
San Antonio & Arkansas Pass Railway Co	
Southern Pacific Co	1903
Union Pacific System	1903
Western Maryland Railroad Co	1916
Confidential	1914
Confidential	1917
Confidential	1916

Transit Companies

The Denver Tramway Co	
Interboro Rapid Transit Co., New York City	1916
Newport News & Hampton Railway, Gas & Electric Co.	1915
New York Railway Co., New York City	1912 (1916)

	DATE OF ESTABLISHMENT
Omaha & Council Bluffs Street Railway Co	
Philadelphia Rapid Transit Co	1911 (1918)
Rock Island System	1910
Syracuse & Suburban Railroad Co	
Third Avenue Railway System, Inc., New York City	1916
Twin City Rapid Transit Co. (Minneapolis.	1915
United Railways Co. (St. Louis)	1915
Washington Railway & Electric Co., D.C..	1907
Confidential	1914
Gas and Electric Companies	
Edison Electric Illuminating Co. of Boston	1913
Boston Consolidated Gas Co	
Commonwealth Edison Co., Chicago	1912
Consolidated Gas, Electric Light & Power Co. Baltimore	1912
Consolidated Gas Co. of New York.	
Niagara Falls Power Co	1911
Peoples Gas, Light & Coke Co.	
Philadelphia Electric Co	1911
Philadelphia Gas & Electric Co	1911
Chas. H. Tenney & Co., Engineers (New England Gas and Electric Corporations).	1911
General Electric Company	1918
Southern California Edison Co. Los Angeles	1919
Newport News & Hampton Rlwy., Gas & Electric Co.	1915

	DATE OF ESTABLISHMENT
Miscellaneous Public Utilities	
American Telephone & Telegraph Co	1913
Kansas City Telephone Co	1913
Niagara Falls Power Co	1919
Public Service Corporation	1911
Western Union Telegraph Co	1916
Manufacturing and Commercial Concerns	
American Chain Co	1919
Am. Smelting & Refining Co. (Copper)	1913
American Sugar Refining Co	1912
Brown & Sharpe Mfg. Co	1920
J. I. Case Threshing Machine Co	1915
Cheney Bros. (Silk Manufacturers)	1910
Cleveland Cliffs Iron Co. (Refined Chemical Products)	1909
Cleveland Metal Products Co. (Oil Stoves, Cooking Utensils, etc.)	1918
Colorado Fuel & Iron Co	1917
Crane Co. (Valve Fittings)	1916
Manufacturing and Commercial Concerns	
Crompton & Knowles Loom Works (Loom Mfrs.)	1916
Deere & Co. (Agricultural Implements)	1918
E. I. du Pont de Nemours & Co	1916
Elgin National Watch Co	
Fairbanks, Morse & Co. (Scales, Engines, etc.)	1917
General Electric Co. (Electrical Machinery)	
General Fire Extinguisher Co	1914
Gilbert & Barker Mfg. Co. (Oil Storage Systems)	1903 (1918)

	DATE OF ESTABLISHMENT
B. F. Goodrich Co. (Rubber Goods)	1915
Goodyear Tire & Rubber Co	1915
Gorham Mfg. Co. (Silverware)	1903
F. C. Huyck & Sons (Papermakers' Felt)	1911
International Harvester Co	1908
International Silver Co	1912
Kimberly-Clark Co. (Paper Mfrs.)	1915
Landers, Frary & Clark (Cutlery & Hardware)	1916
Midvale Steel & Ordnance Co.	1919
Murphy Varnish Co	1919
A. E. Nettleton Co. (Shoe Mfrs.)	1914
Newport News Shipbuilding & Dry Dock Co	1915
Otis Elevator Co	
Parke Davis & Co	1910
Phoenix Horseshoe Co	1917
Procter & Gamble Co. (Soap Mfrs.)	1894 (1918)
M. Reischmann & Sons, Inc. (Wooden Tables)	
Sherwin-Williams Co. (Paint Mfrs.)	1911
Stanley Rule & Level Co. (Awls, Beaders, etc.)	1916
Studebaker Corporation	1919
Sullivan Machinery Co	1915
Talbot Mills (Woolens)	1903
United States Rubber Co.	1917
U. S. Steel Corporation	1910
Victor Talking Machine Co	1913
Virginia Bridge & Iron Co	1914
R. Wallace & Sons Mfg. Co. (Brushes, Knives, etc.)	1912
Western Electric Co	1913

	DATE OF ESTABLISHMENT
Westinghouse Air Brake Co	1908 (1915)
Westinghouse Electric & Mfg. Co	1915
J. H. Williams & Co. (Drop Forged Specialties)	1914
Winchester Repeating Arms Co	1915
Wurlitzer, Rudolph Co	
Confidential	1913
Confidential	1903 (1914)
Confidential	1915
Confidential	1910
Confidential	1908
Confidential	1913

BANKS

Bank of Hamilton, Canada	1911
Banco Nacional de Cuba (Bank of Cuba in N.Y.)	
Bank of Long Island	1917
Bankers Trust Co., N.Y.C.	1913
Central Savings Bank of N.Y.	
Central Trust Co. of Illinois (Chicago)	1918
Citizens Savings Bank, N.Y.C.	
Columbia Trust Co., N.Y.C.	1915
Commercial Trust Co. of N.J.	1916
Farmers & Mechanics Savings Bank (Minneapolis)	1912
First National Bank (Chicago)	1899
First National Bank, N.Y.C.	1911
First & Old Detroit National Bank	1915
Empire Trust Co., New York City	1919
Guaranty Trust Co., N.Y.C.	1914
Guardian Savings & Trust Co., N.Y.C.	1913
Live Stock National Bank, Omaha	1917

	DATE OF ESTABLISHMENT
National Bank of Commerce, N.Y.C.	1913
National Bank of Cuba	
National City Bank, N.Y.C.	1912
National Shawmut Bank of Boston	
Northwestern National Bank, Minneapolis	1911 (1920)
Philadelphia Trust Co	
Speyer & Co., N.Y.C.	1906
Union Savings Bank & Trust Co. (Cincinnati)	1911
Union Trust Co. (Chicago)...(Amended)	1918
Confidential	1911

INSURANCE COMPANIES

Continental Insurance Co	
Northwestern Mutual Life Ins. Co	1915
Metropolitan Life Ins. Co.	
Equitable Life Ass. Soc. of U.S.	
Prudential Insurance Co. of America	

MISCELLANEOUS CONCERNS

Allen, S. L. & Co	
Armour & Co. (Packers)	1911
Butler Bros. (Wholesale Merchandise)	1909
Darling & Co	1920
Hibbard, Spencer, Bartlett Co. (Wholesale Hardware)	1905
Holmes Electric Protective Co. (Electric Burglar Protection)	1915
Houghton-Mifflin Co. (Publishers)	
Marshall-Wells Co. (Wholesale Grocers)	
Montgomery Ward & Co. (Merchandise)	1914
Morris & Co. (Packers)	1909
Old Dominion Steamship Co	1903
Pittsburgh Coal Co	

	DATE OF ESTABLISHMENT
Sprague-Warner & Co. (Wholesale Grocers)	1915
Standard Oil Co. (California)	1918
Standard Oil Co. (Kansas)	1918
Standard Oil Co. (Kentucky)	1918
Standard Oil Co. (Nebraska)	1918
Standard Oil Co. (New Jersey)	
Standard Oil Co. (New York)	1919
Swift & Co. (Packers)	
Tide Water Oil Co.	1914
Vermont Marble Co.	1913

PART IV

CHAPTER XVI

INCENTIVES IN RETAIL STORES

THE BASES USED BY DEPARTMENT STORES IN ESTABLISHING WAGE-RATES[1]

The practice of large department stores at present is to use the cost of living as the principal base for establishing minimum starting rates for inexperienced adult workers. The margin in a starting rate above this minimum is influenced at any given time by the demand and supply of workers, and by the desire of a store to attract workers of a given type. Some years ago, the base used almost solely by the large stores for starting rates was the payment of merely what the market conditions required. The change in policy has been effected not only by the general use of the cost-of-living base by state minimum wage commissions in formulating wage standards for retail stores, but also by the recognition of managers that a store cannot continue to attract and retain the type of worker necessary to render the intelligent service that customers demand unless it pays a starting wage that represents at least the cost of living.

Some stores now pay a starting rate to inexperienced workers that represents a substantial advance over the established legal minimum wage. This is done on the theory that, with labor as with merchandise, one gets in results precisely what one pays for, provided the workers are selected with discrimination. Occasionally a large store in a given city can consistently follow this practice and select a higher than average type of worker. How-

[1] By Philip J. Reilly, Associate Director, Retail Research Association, New York. Annals. 100 : 29-36. March, 1922. Reprinted by permission.

ever, individual stores in large cities that wish to pay more than the customary starting rate frequently meet with a practical difficulty in following this policy. Because of the keen competition among the larger stores, each is alert to see that no individual store solely enjoys the advantage of getting the pick of the applicants for work by paying a premium initial rate. This keenness in competition for workers was especially manifest during the war and immediately after the armistice. Whenever certain stores were unable to attract sufficient applicants, it was the custom in some cities where competition for labor was keen to "shop" other stores occasionally by assigning professional shoppers to the task of ascertaining what rates were being paid and if the working conditions were especially appealing in the stores which had the most success in securing workers. Therefore, because of this existing business rivalry, when one store starts the practice of raising the general starting rate, the other stores usually follow suit, especially when desirable workers are not too plentiful. As a consequence, this competition usually results in all stores of the same class offering about the same rate.

Wide Adoption of Individual Productivity Basis

During the first month of employment inexperienced workers in most stores are paid a straight weekly wage. It is the desire of store managers, however, to establish for each person, as soon as practicable, a definite relationship between the weekly wage paid and the productivity of the worker. Individual productivity, therefore, wherever the nature of the work permits it, is the base that is used by most of the larger stores for determining the wage of each experienced individual. In selling positions, productivity is expressed not only in terms of the total value of sales but also in the number of sales or transactions that have been made by an individual and the average amount of each sale. The use of the number

of transactions and the average amount of each sale as measures of the efficiency of a salesperson has increased during the past two years, and the recent drop in retail prices has made the use of all three of these factors especially valuable in determining wages. This drop in prices has made it necessary to sell 15 per cent to 25 per cent more pieces to approach the same sales figures that were attained before the price recessions.

In the non-selling positions, although most of the workers are still paid a weekly wage that is not directly related to a measured output, wherever it is possible to devise a unit for measuring directly the productivity of the workers, this is established and the wage paid on that basis. For instance, in office work the measuring unit may be the number of credit authorizations made; the number of invoices billed; or the number of lines that have been typed. This productivity basis for determining individual wages has given the most satisfactory result in both selling and non-selling positions. It has resulted not only in stabilizing store forces by rewarding individuals precisely in accordance with their efforts, but it has also enabled store managements to control their payroll expense so as to keep it proportionately reasonable. To respond to the public demand that the costs of distribution be kept at a reasonable level, store managers must constantly watch payroll expense, since this is usually approximately 55 per cent of all operating expenses.

Where the employee is to be continued for some time on a straight salary the practice of most large stores is to review the work of the employee after one month's service. The purpose of such a review is quickly to discover the worker who is not making progress and to meet this situation either by additional instruction, transfer to another position or even dismissal. This review at the end of one month is deemed necessary, also, to adjust the rate of unusually promising employees, since experience has shown that it is necessary to make this

adjustment a few weeks after employment in order to correct the element of "guess" as to the value of a particular employee contained in the average starting rate. Finally, this prompt review of all new employees with the resulting raises reduces labor turnover. An analysis of turnover figures furnished by a group of stores showed at one time that one-third of all employees who had left their positions had done so within the first month of employment. After following for a year the policy of consistently reviewing all new employees within the first month of employment, the turnover figures of the same stores showed that only one-fifth of all who left did so within the first month.

Selling Cost Basis

In regard to selling positions most stores base their wages on a selling cost base. This base is the per cent representing the relation of total wages paid in a selling department to the total sales made. In a department selling $3,000 of merchandise a week with six salespersons whose wages average $25 a week or a total of $150, the selling cost is 5 per cent. This per cent is relatively low in the departments where the average sale is high, such as in departments selling dresses or coats and suits. It is relatively high where the average sale is low, such as in the notion and pattern departments. The selling expense in departments selling dresses or coats and suits will range from 3 per cent to 4½ per cent, whereas in departments selling notions or patterns the wage cost or selling per cent will range from 7½ per cent to 12 per cent. Generally speaking, individual wages are high in the departments where the selling cost per cent is low and they are relatively low where the selling cost per cent is high. The simplicity of the transaction in departments like those in which notions and patterns are sold permits the employment of relatively young and inexperienced salespeople at the lower wage-rates. In

women's ready-to-wear departments, however, since the sales involve a considerable outlay, most stores endeavor to maintain mature, experienced salespeople who can give customers expert advice and counsel as to the appropriate wearing apparel they should have. This service is being increasingly demanded by customers and can be given only by well-paid discriminating salespeople experienced in apparel selling.

The department selling cost is usually determined on a six months' season basis. At the end of each season, the rates of individual salespeople are adjusted on their productivity showing, precisely in proportion to their having sold at the average department rate or lower. Individual sales quotas are determined by dividing the department rate into the weekly salary of each salesperson. An experienced salesperson earning $30 a week who sells in a 5 per cent department is expected to sell at least $600 a week to maintain her position at this wage. Although allowance is made for seasonal fluctuations, if she consistently sells less than this amount for a number of weeks, resulting in a higher selling rate, efforts are made to stimulate her sales so that she can maintain her position at the average department rate. If she sells, say $750 a week, however, resulting in a selling cost of only 4 per cent, which would be 1 per cent lower than the department average, her salary is generally increased proportionately so that there will be a consistent and a direct relation between her earnings and the department rate.

The foregoing describes the method of paying and adjusting individual wages in stores employing a straight salary wage plan. Under this plan a salesperson is assured the same income for each week. The diligent worker may not always be immediately paid the exact amount she may earn over and above her salary, pending the adjustment of her regular wage, and to this extent the straight salary plan may be open to criticism. On the other hand, however, under this plan the worker is

not forced to make up the deficit when her earnings are less than the salary she receives. In the case of inexperienced workers the earnings invariably are less during the first few weeks of employment, and at certain dull periods even many experienced workers are unable to sell their quota and earn their rate.

Variations in the Commission Plan

Where salespeople work under a straight commission plan, arrangements are usually made with them for a weekly drawing account that represents about 80 per cent of their earnings. The balance is paid in commissions and these commissions sometimes are paid only once a month, although many stores pay the commissions weekly. Under the straight commission plan, salespeople are paid precisely what they earn. A furniture or clothing salesman working under a 5 per cent straight commission plan may have a weekly drawing account of $40. If he sells over his quota and actually earns $50, the extra $10 a week is paid the following week or the following month. If, however, he earns only $35, the regular weekly drawing account of $40 is paid but the deficit of $5 is deducted from any commissions earned above his regular weekly drawing account in subsequent weeks, and the balance, if any, is paid as a commission.

The theory of the commission plan is that the direct relation between a sale and the payment of a percentage of the sale in a wage, acts as the most potent incentive for salespeople to sell diligently. It is not favored by some store managements, however, because it is felt that an employee's success in an organization should depend not on sales alone but also on other personal factors; and that a commission plan is unsatisfactory because it does not permit evaluating anything else in an employee but the ability to sell merchandise. When determining individual wages of salespersons, some stores which wish to consider such factors as length of service, cooperativeness, promptness and steadiness in attendance, versatility, loyalty and leadership qualities, feel that these factors can best be evaluated under a straight salary plan. To provide some incentive, however, for increasing sales, it is the practice of a number of large stores to pay a small commission on all sales in addition to the weekly salary. This commission frequently is 1 per cent, and it may represent an increase of 10 per cent to 20 per cent over the regular weekly salary.

William Filene's Sons Company, Boston, after experimenting with various wage plans for several years, now pay all salespeople a straight salary which is based on the average selling cost percentage of the various departments. In addition to this, however, a commission is paid on all sales. This commission varies from ½ of 1 per cent to 1½ per cent in the various departments. Usually a bonus percentage of this sort represents about one-fifth of the actual selling cost of a department. Filene's feel that it is necessary to have this commission percentage vary in order to make it possible to pay a commission in departments with a small average sale that will be substantial enough to act as an effective incentive for salespeople in these departments to increase their sales. The disadvantage of paying a uniform percentage of bonus in all departments will be appreciated when it is realized that the average sale in a notion department in many stores will be approximately only 50 cents, whereas the average sale in departments selling women's coats and suits will range from $30 to $65, depending on the character of merchandise that a store carries. In the notion department the average salesperson will handle five or six hundred transactions per week, whereas in departments selling coats and suits the number of transactions per salesperson throughout the year will average only from twenty-five to thirty-five a week. At Filene's, the commission on all sales is paid weekly in a separate envelope, since this method

of paying the commission is effective in impressing salespeople with the constant relationship that must exist between the wages they earn and the sales they make.

The plan in effect at Filene's has proved to be very satisfactory to the employees. While it attempts properly to "weight" the sales factor, it also permits a consideration of other factors. This is provided for at Filene's by a periodical rating of all employees on such traits as (1) mental qualifications; (2) technical ability; and (3) personality, health and general value to the company.

An Effective Wage Plan in Operation

One of the most interesting wage payment plans for department store workers is that in effect at the Joseph Horne Company store at Pittsburgh. Because this wage plan has been in effect for something over twelve years and has functioned satisfactorily both in dull and prosperous seasons, it has been the object of considerable study by many other department store managements. The plan commends itself because it is simple in operation; it is easily understood by employees; it shows the comparative worth of individuals at all times; and it provides for the adjustment of salaries on an individual productivity basis at regular intervals.

When salespeople are engaged, they are paid the going rate paid by the better class of large stores and the method of adjusting salaries is explained to them. After thorough training, they are given their weekly sales quota and placed at work. After two months their sales are reviewed and salaries are increased if the sales during this probationary period justify it. New quotas are then given based on the increased rate. Thereafter, salaries of the salespeople are adjusted in February and August of each year. The total salaries paid in each department for the six months preceding February and August are

divided by the total sales of the respective departments for the same period to ascertain the average cost per cent for selling. The average weekly sales of each salesperson are then computed for the six months and multiplied by the department rate to find what each one has earned. If the sales of an individual warrant a higher salary than she is receiving, her salary is increased accordingly. If she has not earned her salary, she is not reduced but is interviewed. At this interview her record is shown and she is requested to make an effort to bring up her sales. At the expiration of the following six months if the salesperson is not earning her salary, she is then given a trial in some other department or is dismissed.

In some departments experience has shown that salespeople will occasionally run behind their rate the first six months and ahead of their salary the second six months. In such cases their "worth" is averaged for the year and adjustments made on that basis. In addition to the above salary arrangement, which is based on the productivity of the individual, a sales bonus is paid March 1 and September 1 on individual sales in excess of quotas at the department's average selling per cent for the corresponding period of the preceding five years. Under this arrangement all salespeople are afforded an opportunity to earn a bonus in addition to their regular salaries.

Although a majority of the larger stores base their wages of salespeople primarily on the productivity basis, consisting of the number and the amount of sales in a given period, many stores take other factors into consideration in determining individual rates. Through the use of rating plans which provide for rating employees periodically on such subjects as attendance, courtesy, suggestions, accuracy and cooperativeness, an effort is made to "weight" and evaluate these qualities also in salespeople.

Productivity Bases for Non-Selling Groups

The satisfactory results obtained from the use of the individual productivity bases for salespersons' wages has directed the attention of store managers recently to the use of the same basis for non-selling groups composed of clerical workers, stock-room people, delivery workers, etc. A number of stores through time studies have established a measure of the work in these non-selling positions and used this information to establish standards for a proper day's work. Some stores have based their wages on definite tasks and are paying a money incentive to the workers who surpass them. A large department store in Canada has established in its delivery department a quota of three hundred parcels per driver per day as an excellent day's work. Their drivers are paid a bonus of 1½ cents for every parcel delivered above this quota. It is claimed that this bonus arrangement has resulted in their delivery department's being able to take care of a 26 per cent increase in parcels with no increase in force or equipment. In the month of December, when deliveries are heavy, drivers make from $25 to $35 in parcel bonuses for the month, although the average bonus earned during other times is approximately $3 to $4 a week. The management of this store states that the parcel bonus has saved much expense for them and has in addition promoted harmony and contentment among their drivers because of the additional money they have earned.

A large Boston store pays a bonus to its parcel wrappers for all parcels wrapped over a certain quantity. The tasks were set after the average daily production of each wrapper over a period of months had been ascertained. If the first task is exceeded, a payment of 25 cents per day is made; for exceeding the second task, 35 cents per day is paid and 50 cents a day for exceeding the third.

At William Filene's Sons Company the billing machine operators, who are girls, are paid on a piece-

work basis of one cent a sales check on all checks accurately billed to charge customers in excess of a certain amount. Regular weekly salaries for each operator are established. An operator earning $25 a week is expected to bill twenty-five hundred checks and she is paid at the rate of one cent a check for billing any quantity over her quota. A penalty of 10 cents each is imposed for errors.

In a large department store in Ohio the billers are all expected to bill at least seventy-five hundred checks per month, since experience has shown this to be a fair month's work in this store. Bonuses are paid, however, for exceeding this quota at varying rates depending on the quantity up to 75 cents per one hundred for billing over ten thousand checks.

Attempts to Regulate Seasonality and Other Wage Factors

One of the most perplexing factors that store managers must keep in mind in formulating any wage plan is the seasonal fluctuation of sales on which wages are based. One-quarter of the year's business may be done in November and December and only approximately one-tenth or one-eighth may be done in June and July. A plan that will yield each worker a good salary in months when business is brisk may have quite disappointing results in other months. It is not by any means a simple management task to devise for all departments a plan that will provide a constant weekly wage return sufficient to retain ambitious workers. A wage plan that is too closely related to sales in a store which has marked fluctuation in its sales volume each month, may fail to hold workers in the relatively dull months.

This seasonal fluctuation necessitates not only constant study and manipulation of individual sales quotas but also, at times, a strategic manipulation of the entire store force. This is because a drop in sales will result

in expensive overmanning and overmanning, in addition, will immediately depress the earnings of salespeople if they are paid a wage that is closely related to the volume of business that is done in a department. Efforts are being constantly made by department store managers to flatten the seasonal peaks and valleys, but the seasons of the year and fixed purchasing habits tend to make it very difficult to change materially this problem of seasonality and it will continue to be a bothersome factor in establishing wage-rates that are satisfactory to the employee and fair to the management, both in dull and busy periods.

It is the practice of some stores to make no change in the basis of a wage-rate before thoroughly discussing the proposed change in advance with the group of employees affected, and then making changes only after the conditions have changed under which an existing rate was established. In a few stores, moreover, an attempt has been made not only to pay a fair individual rate but to pay, in addition, a group bonus wherever the payment of this results in developing a departmental esprit de corps. For instance, in the jewelry department of one large store, individual salaries are adjusted on the basis of individual sales but, in addition, a group bonus is paid on all sales made in the department. This lump sum is divided equally among the various salespeople in the department and it has resulted in correcting to some extent the dissatisfaction that existed when bonuses were paid merely on individual sales. If a customer spent considerable time inspecting an expensive ring, but deferred making the purchase on the first visit, on the subsequent visit it frequently happened, during the lunch hour, that, when the customer called again with her mind made up to buy, the sale was effected and a substanial commission earned, under the former plan, by a different salesperson from the one who had spent so much time in developing her initial interest in the merchandise. Naturally this

situation caused the first salesperson to become dissatisfied.

The group bonus plan has equalized earnings in the department to some extent and it has also corrected the former dissatisfaction that was caused by certain salespersons getting the most sales because of their better stations in the department. It is the custom in some stores to permit the long service salespeople to occupy certain stations that may be especially strategic for making sales.

In a large department store in St. Louis good results in developing store spirit have been achieved by paying a 1 per cent bonus on all sales, provided the business of the store is increased $100,000 each month. Thus the management shares with employees a portion of its gains from increased sales and assists in emphasizing to the salespeople the direct relationship between a store's ability to pay good wages and an increase in sales.

Productivity Base for Buyers' Salaries

The salaries of buyers also have a productivity base. The buyer's salary or drawing account frequently represents 1 per cent or 1½ per cent of the sales of a department for the preceding year. In certain departments, however, and also under certain unusual conditions, such as when exceedingly competent buyers are engaged to build up weak departments, the buyer's salary may represent as much as 2 per cent or 3 per cent of the annual net sales. Frequently, bonuses of 1 per cent or 1½ per cent are given in addition on increased sales. Of all department store executives, buyers are always in the most advantageous position to effect the most satisfactory salary arrangement with store managers. The technical information of a successful buyer can be utilized in practically any other store. His constant trips to the market enable him to make contacts that frequently lead to better opportunities and the salary offered

is usually sufficiently attractive to induce him to go to almost any section of the country he desires.

From the foregoing, it will be clear that store managers in determining buyers' and experienced salespeoples' wages usually use as the primary consideration the amount of sales made. In determining the wages of the non-selling groups of store workers, the tendency is to base these on some measure of productivity, such as the number of transactions handled. Wage plans, such as these described, that incorporate individual productivity as a fundamental, wherever it can be fairly measured, and wherever such plans can be equitably and reasonably administered under varying conditions, usually result in high individual wages, a relatively low labor turnover and a reasonable operating cost for stores.

FINANCIAL INCENTIVES FOR DEPARTMENT STORES EMPLOYEES [1]

Redoubled efforts by retail stores to find a system of compensation which provides incentive to the individual employee and greater sense of responsibility for the growth and success of the business among employees as a group of co-workers, are indicated by the increasing number of department stores which have established bonus and commission systems, or are changing and perfecting methods of long standing.

What This Survey Shows

This survey conducted among several hundred retail stores, large and small, in all sections of the country, shows that nine-tenths of these stores have established a bonus or commission system that seems to be more or less satisfactory, are experimenting with a system of compensation which they hope will have better results

[1] A Survey by Industrial Relations: Bloomfield's Labor Digest. Copyright 1921. Revised to date.

than previous flat-wage methods, or desire to adopt some other system if a better plan can be found.

Contact With the Customer

The retail store is probably more dependent upon the spirit of the individual employee than any other branch of business or industry. This is particularly true in all selling operations, which involve a contact between customer and employee in which the intelligence and interest of the employee is an important, and frequently *the* important, factor. The principle object of a large majority of the stores in establishing commission and bonus systems has been to make this contact between employee and customer more effective by making such positions attractive for workers of ability, and by providing incentive for greater effort in each transaction. From one-third to one-half of the employees of a store have contact with the buying public with a direct effect upon sales, and the efficiency of many of the employees who do not meet the customer has an influence upon sales that is by no means remote.

Additional compensation for all employees, as a reward for better team-play and organization spirit, has been provided by many stores. This type of extra payment is sometimes a substitute for a commission or bonus system, more often used in addition to such a system.

Profit-sharing, through stock distribution among employees, has been adopted by several stores, but they comprise a small proportion only.

The Wage as an Incentive

It is also noteworthy that some stores find an established wage, subject to frequent adjustment to conform to the record of the individual employee, meets successfully the problem of providing incentive. Some stores, having abandoned commission and bonus systems, revert

to such plans again after providing better supervision and records.

Why Some Payments are Temporary

Study of methods of compensation in addition to an established wage during the past year has probably occurred at the peak of interest in such methods. Many stores have distributed funds among their employees during the past few years for the purpose of sharing prosperity, or of meeting the competition of other lines of business for employees, and such distribution has not become permanently a part of the regular system of compensation.

During the holiday season just passed some of these stores failed to distribute those additional funds as in the previous two years, and in other cases the amount distributed was substantially smaller than that of the previous year. Such funds were used to bridge temporarily the gap between retail store wages and factory and business office wages, during the period of keenest competition for workers.

Retail store wages cannot normally rise and fall with the rapidity of industrial wages, since the nature of the business does not permit of increases and decreases in the number of workers in as exact ratio to sales as can be applied in the factory in ratio to production.

In a time of readjustment the store cannot shut down or run on part time. A relatively large proportion of employees must be retained in the periods of poorest business, in order that all departments may be operated, merchandise protected, and a trained force ready for increased business. During the period of rising cost of living and keen competition for labor the wage level in retail stores has been substantially raised, but bonus payments and gifts, less permanent than wage increases, have often been depended upon to meet the need for maximum wages.

Definition of Commission and Bonus

The terms commission, bonus, and profit-sharing have been used by various stores to designate almost identical systems. Their use for classification or description of the various methods of compensation is misleading without careful definition.

The Committee for the Study of Wage Problems of the National Retail Dry Goods Association has established, for the purposes of its reports, the following definitions:

Commission: A percentage paid to individual salespeople on their *total* sales.

Bonus: A payment in addition to regular wage, for services exceeding a set quota or standard in quantity or quality. (May be determined as a percentage of sales above quota or by any method of measurement. Applicable to either selling or non-selling forces.)

These definitions allow a clear division of various types of commission and bonus systems, but do not conform wholly to common usage in that they do not recognize as bonus any distribution for service not measured by individual performance, and are not comprehensive in failing to recognize as bonus payment that plan of a number of stores of distributing funds measured by group performances.

The definition of the term *bonus* as given above is therefore used in this statement as ***measured individual bonus,*** and the terms *measured group bonus* and *bonus* without qualification are used in the following senses:

Measured group bonus: Payment in addition to regular wage, through distribution in accordance with wage or responsibility, for services by employees as a group exceeding a set quota or standard in quantity or quality.

Bonus: Payment in addition to regular wage, through distribution in accordance with wage, responsi-

bility or length of service, to all employees or to groups of employees, in recognition of improved service or team-play, but not measured by quota or standard applied to the work of individuals or groups.

Other terms used, and the sense of their usage, are:

Profit-sharing: "An agreement freely entered into, by which the employees receive a share, fixed in advance, of the profits."

Adjusted wages: Wages adjusted at frequent intervals in accordance with the quality and quantity of service by the individual employee.

Commission Systems

The essential features of commission systems are:

1. Commission is paid only to salespeople or executives of selling departments.
2. Commission is paid in addition to regular wage or drawing account, usually, wage is paid weekly and commission monthly.
3. Commission is paid on all sales, i.e., there is no sales quota. Commission, however, is paid upon net sales, not gross sales.
4. Rates of commission range from ½ per cent to 1½ per cent. In some cases the same rate is paid in all departments; in other cases, higher rates are paid in departments where volume of sales is relatively smaller because of the nature of the merchandise—thus, the lowest rate of commission in furs, the highest rate in notions and smallwares.

Commissions—Pro and Con

The principal advantage of the commission system is that all salespeople earn in addition to the regular wage—the incentive applies to all. The principal disadvantage is that the compensation of the poorer salespeople may be larger in percentage to sales than that of

the better salespeople, unless the regular wage is constantly adjusted.

Some stores have combined the commission and individual bonus systems, paying commission on all sales, and additional commission on sales above the given quota, in order to secure the advantage of having all salespeople earn commission, and at the same time overcome largely the possibility of salespeople below the average earning in greater proportion to sales than those above the average.

Examples

Among the stores using the commission system are the following:

William Filene's Sons Company, Boston. Commission on all sales from ½ to 1 per cent in all departments except Men's Clothing (5 per cent) and Service Departments, (5 per cent to 8 per cent).

J. L. Hudson Company, Detroit. Commission of ½ per cent on net sales throughout the year with the exception of December, when commission of 1 per cent on net sales is paid.

B. F. Dewees, Philadelphia. Salesperson working full time receives ½ per cent; salesperson working on contingent time—i.e., 11 a.m. to 5 p.m.—receives ⅜ per cent.

Hager & Bro., Lancaster, Pa. Commission of ½ per cent and 1 per cent, according to the nature of the departments. In addition this concern has a department bonus for sales workers and a bonus for non-selling workers which are described in other sections of this report.

Patton-Anderson, Inc., Minneapolis. Commission of 1 per cent on net sales.

Christman Dry Goods Company, Joplin, Mo. Commission usually 1 per cent; in such departments as fur-

niture, rugs, men's clothing, women's suits, cloaks and dresses, ¾ per cent.

William Hengerer Company, Buffalo. Straight salary, with the exception of two store-wide sales, when commission is 1 per cent on sales and 3 per cent above a certain quota based upon salaries.

H. C. Capwell Company, Oakland, Cal. Commission of 1 per cent. (In hairdressing department there is a commission of 5 per cent on hair sales and 2 per cent on labor.) The suit department operates on a 2 per cent commission basis.

Woodward & Lothrop, Washington, D.C. This company has a bonus plan for its selling employees, established September 1921. Approximately three hundred of the twenty-five hundred employees participate in the plan, which provides a straight commission, with a drawing account. The old salary was made the drawing account.

S. Kann Sons Company, Washington, D.C. A commission of from ½ to 1 per cent on total sales. Approximately three hundred and fifty to four hundred of one thousand employees participate in the above bonus.

The Louis Traxler Company, Dayton, Ohio. In certain departments commissions on sales are given. In the Ready-to-Wear Department is ½ per cent on all sales, while in some of the other departments, it is straight 1 per cent.

Seasonal Commissions

Some stores in which the commission system is not used throughout the year find it advantageous for certain periods, generally during the Christmas selling season or for special sales events. Such commissions, paid upon all sales, usually are in addition to payments made under an individual bonus system. For example:

The Dayton Company, Minneapolis. Commission of 1 per cent on net sales is paid to all salespeople for a period of twelve to twenty-four days prior to Christmas. The rate of commission is increased or decreased in certain departments to equalize the earning opportunity. For every $1,000 earned by the selling force the same amount is set aside to be distributed to the non-selling force, according to the salary which they earn. This bonus is paid in two installments, one, either the 22nd or 23rd of December, and the last installment on the 15th of January. In 1921, the bonus started on December 12th and applied to any sales-person who was hired by us for the Christmas Holiday rush.

Jordan Marsh Company, Boston. Commission of ½ per cent is paid on all sales from November 1 to Christmas.

Joske Bros. Company, San Antonio. For three weeks prior to Christmas, 1919, commission of 2 per cent was paid on all sales, except in lace, embroidery and notions departments, where the commission was 3 per cent.

Measured Individual Bonus—Salespeople

The individual bonus for salespeople, frequently referred to as the quota system, is the most complex of the compensation systems in common use, yet has been adopted in some form by more stores than any other system. It has as many variations as there are stores using it, but in a large majority of cases the essential features are as follows:

1. Selling expense percentage is established for the department, from experience of the preceding year or the same period of the preceding year, as the proportion of total salaries to total sales of the department.

2. Selling quota for each salesperson is established on the basis of regular wage and selling expense percentage.

3. Bonus at an established rate (usually about one-half of the selling expense per cent, and often more than one-half of that per cent) is paid on all sales in excess of the quota.

4. The bonus period ranges from one to six months, and deductions are made from sales above the quota for sales below the quota during that period in figuring bonus.

The Bonus System—Pro and Con

The principal advantage of such a bonus system is that it establishes a standard task for each employee which must be performed before the regular wage is fully earned, with a reward for those who exceed the standard task. The principal disadvantage is that salespeople who cannot earn a bonus with any degree of regularity lose the incentive to do their best. This disadvantage is frequently due to the difficulty in figuring quotas accurately and fairly.

There are many systems of establishing quotas, and widely varying rates of bonus on sales above the quota. There is no standard system. A typical system, however, is described in the following quotation from the statement to their employees by

Abraham & Straus, Inc., Brooklyn. This is the Abraham & Straus method of arriving at your quota:

First: The total net sales for your department for each month of the year for the past five years is noted by our accountants.

Second: The total salaries in your department for the same length of time is noted by our accountants.

Third: The total salaries for each month for the five years is divided by the total sales for each month for the five years. The resulting number is the average selling expense in your department for each month.

Take an exampe to make it clear:

Suppose that your department has done $10,000 business for each June for the last preceding five years. Adding, the total amount of business for the five Junes is $50,000.

Suppose that the salaries in your department have been, each June for the last five years, $550. Adding, the total amount of salaries is $2,750.

Divide the $2,750 (total salaries for five Junes) by $50,000 (total sales for five Junes). The answer is .05½ per cent, which means that the selling expense in your department is 5½ per cent.

Now suppose that your salary is $11 per week. Eleven dollars is 5½ per cent of $200. Therefore, $200 is your quota and you will have to sell it each week before you have actually earned your salary of $11. Whatever you sell over and above $200 would be over and above what the $11 pays you for. On any amount you sell above $200 a week, therefore, you are entitled to a bonus commission of 2 per cent—and with the Abraham & Straus bonus commission system, you get it.

Your quota, you see, has nothing to do with the commission that you or any other clerk in your department has earned the month before.

In justice, your quota must be changed almost every month—raised in the busy seasons, lowered in the dull season. At the beginning of each month you will be notified—in writing—of the amount of your quota for that month; that is, the amount you must sell before you have earned your salary and before your are entitled to any bonus.

Non-selling heads of stock also receive ¼ per cent on increase of business. The wrappers are also given a bonus of 1 cent a package for each package wrapped above a certain quota. Also 10 cents for the discovery of errors. In some of the office departments a similar system is employed. For instance, the billers receive 25 cents for each additional one hundred lines of work correctly executed beyond their day's quota.

Among the various individual bonus plans for salespeople in operation are the following:

LaSalle & Koch Company, Toledo. Quotas and bonus are figured according to the following plan:

The rates of commission necessarily varied in the several departments, for it is obvious that the same rate would not hold for two departments so radically different, as, for instance, notions and furniture. These rates were based on an accumulation of information: the cost of selling in this store for the three previous years and the cost of selling in several other organizations, modified to fit the particular conditions existing in the departments, such as location, size and light. These are the rates arrived at; they are not as yet perfected, for the rate should be such that some person in each department is capable of earning commission on that basis. And, as a matter of fact, there are two or three departments in which no one earns. But,

inasmuch as these rates would have to be modified for any other organization in any case, it is a matter which need not be discussed at length. The first column indicates the rate on which the daily quotas are based, the rate on which drawing accounts are reckoned. The second column shows the per cent of commission paid on sales in excess of the stipulated quota.

Art	6	per cent and	5	per cent
Boys' furnishings	5	per cent and	5	per cent
Buttons	7	per cent and	6	per cent
Carpets, rugs, linoleums	3½	per cent and	3½	per cent
China, house furnishings	5	per cent and	5	per cent
Coats and suits	3½	per cent and	3½	per cent
Colored dress goods	6	per cent and	5	per cent
Corsets	5	per cent and	4	per cent
Curtains	4½	per cent and	4½	per cent
Dresses	3½	per cent and	3½	per cent
Furniture	3	per cent and	2	per cent
Furs	3	per cent and	2	per cent
Gloves	5	per cent and	4	per cent
Handkerchiefs	6	per cent and	5	per cent
Hosiery	4	per cent and	3	per cent
Infants' wear	5	per cent and	5	per cent
Jewelry	7	per cent and	5	per cent
Knit underwear	5	per cent and	4	per cent
Leather goods, umbrellas	6	per cent and	5	per cent
Linens	5	per cent and	4	per cent
Men's clothing	5	per cent and	5	per cent
Men's furnishings	5	per cent and	5	per cent
Muslin underwear	5	per cent and	5	per cent
Millinery	6	per cent and	5	per cent
Neckwear	6	per cent and	5	per cent
Notions	7	per cent and	6	per cent
Petticoats	5	per cent and	5	per cent
Ribbons	6	per cent and	5	per cent
Shoes	6	per cent and	6	per cent
Silks	4	per cent and	3	per cent
Silverware	6	per cent and	5	per cent
Toilets	5	per cent and	4	per cent
Trimmings	5	per cent and	4	per cent
Waists	5	per cent and	4	per cent
Wash goods, domestics	5	per cent and	4	per cent

The percentage in the first column was made larger in order to make it easier to reach the daily quota and thus earn extra money on commissions. In this way people are encouraged. It will be noticed that in this store 40 per cent of the departments have the same rate on both quota and excess sales, and that these departments are largely departments carrying staple merchandise, or merchandise without great style variations; while the other 60 per cent which have a lesser per cent on excess sales are largely departments which deal in style merchandise or perishable merchandise. The closer the two per cents are, the better and more fairly the system works out.

R. H. Macy Company, New York. Combined commission and individual bonus plan. Commission of ½ per cent on all sales up to quota; 2 per cent on all sales above quota. Cashiers receive 10 cents for every mistake discovered on salescheck and a bonus on all saleschecks over certain quota stamped and returned with change. Merchandise checkers receive 10 cents for every mistake discovered on salescheck. Merchandise executives receive a percentage on the sales of their departments.

Henderson-Hoyt Company, Oshkosh, Wis. Quota based on percentages ranging from 4 per cent in ready-to-wear to 12 per cent in notions and books, with 3 per cent bonus for all sales above quota. The company also sets aside monthly a percentage of its sales for purposes of a dividend including all employees with them six months or more. In 1921 the company divided $6,000 equally between its selling group and the auxiliary. Each amount was again divided equally among the members of each group. It so happens that the company has twice as many people selling goods as auxiliary and the auxiliary received $177 for their share. This was quite fair inasmuch as the salespeople all have the opportunity for earning a weekly bonus which is paid the week following the sale. The best proof of the success of the plan is the fact that the company increased its business over three times what it was when they took it over five years ago, and only six additional employees were found necessary during this period.

Shepard Stores, Boston. Average cost of selling for each month in each department is figured for past two or three years. The quota each salesperson should sell per day is figured by using this per cent and the individual salary. A slip is given to each salesperson at the first of each month telling what their sales must

average each day in order to earn a bonus at the end of each month. On all sales above such amount for the month, they are paid 2 per cent.

Other stores using such individual bonus systems for salespeople, with similar systems except for variations in quotas and rates of bonus for sales above quotas are:

The Jordan Marsh Company, Boston.
The Wanamaker Stores, Philadelphia and New York.
The Emporium, San Francisco.
Broadway Department Store, Los Angeles.
Killian Company, Cedar Rapids, Iowa.
Stix, Baer & Fuller Dry Goods Company, St. Louis.
Hale Bros., Sacramento, California.
Halle Bros. Company, Cleveland.

Jordan Marsh Company, Boston. Quota bonus plan. An individual quota is given to salespeople monthly based upon the salary percentage of sales for selling people in each department or section of department separately. On all sales in excess of the quota a bonus of 2 per cent to 6 per cent is paid as additional compensation.

1. Base cost for figuring quota is arrived at through the average selling expense percentage experienced in a department for the preceding five years. This base cost changes monthly from year to year.

2. Selling quota for each salesperson is established on the basis of regular wage and base cost (average selling expense percentage).

3. Bonus at an established rate from 2 to 6 per cent depending upon the department is paid on all sales in excess of the quota.

4. Bonus is paid monthly.

5. Quota periods range monthly without deduction for not covering quota during another month.

A. I. Namm & Son, Brooklyn. A quota and bonus system in effect throughout the selling departments

provides for a payment of 2 per cent on sales in excess of the quota fixed. The quota, which has been figured for each department on the basis of selling costs of the previous year in this store and in others studied, is adjusted monthly to conform to changes in selling conditions. The bonus is paid to employees monthly.

The Lindner Company, Cleveland, Ohio. A quota is set depending upon the salary and the department, and a bonus is paid when weekly net sales exceed the amount of the quota. Bonuses are paid every week, the second week after they are earned. One hundred and fifty selling employees, of the two hundred and fifty employed, participate in this plan, which was established in 1910. The company believes bonus rates and quotas once established should never be changed, as any change is likely to undermine confidence. The company pays buyers a bonus percentage on increased semi-annual gross profits.

Kaufmann's, Pittsburgh, Pa. A percentage on sales above a quota which is based on salary and selling cost in a department. Quota determined monthly. Packers, a fixed sum on each package above a quota. Department buyers are on a bonus basis. Quotas must be carefully determined and announced promptly and increases in quotas carefully explained. Bonus determinations should be cheerfully explained.

Measured Individual Bonus—Buyers

A number of stores have applied individual bonus plans in the compensation of executives of selling departments, generally buyers and assistant buyers.

In such systems, however, the bonus is usually a percentage of the sales of the department over sales of the same period of the preceding year, or of sales over the quota assigned to the department.

Some instances of such individual bonus payments are:

Abraham & Straus, Brooklyn. Assistant buyers receive ⅓ per cent on the increase of the year's sales in their department over the preceding year. Buyers usually receive a special commission on increased sales.

William Filene's Sons Company, Boston, have a plan based on the net sales of the department and the per cent of gross profit on the sales. Payments to an individual working in more than one department are made only if the minimum sales and gross profit percentages for the group of their departments have been exceeded.

If an individual working under the above management is transferred during the year he is paid the proportionate part of the year's accomplishment based on the time employed in each department or group of departments. Payment is made to individuals only if they have been employed for the full fiscal year.

Any payments which may be due under this plan are to be subject to the condition that after the payment of such sums as are called for under this plan or any other offering of extra remuneration incentive which may be approved by the management, and after the deduction from total store profit all expenses, taxes, merchandise depreciation, dividends, bonus and any distribution in the form of profit-sharing, there shall be left to the business a minimum per cent of net profit to sales to be set by the management.

Joske Bros. Company, San Antonio. Buyers are paid a bonus of 2 per cent on all increases in sales over sales of the preceding year.

Measured Individual Bonus—Non-Selling Employees

Commission and individual bonus systems have been applied to selling employees in many stores, but few stores have devised a satisfactory system of additional payment for non-selling employees on either a piece-work basis or that of performance of more than a standard task.

The problem of rewarding efficient work by non-selling employees has usually been met by the distribution of a fund among such employees, either in proportion to salary or on the basis of length of service. Usually the amount of the fund so distributed is arbitrarily fixed, but several stores make it a practice to distribute among non-selling employees a fund equal to the total commissions or bonus paid to selling employees.

Methods of estimating and paying additional compensation for non-selling employees, based upon service above a given standard of quality or quantity, have been developed for some departments by several stores. Among them are the following:

Hale Bros., Sacramento. Delivery drivers receive a bonus of $5 a month, provided they score 100 per cent on inspection of their automobiles. There is a 50 cent deduction for each criticism, such as a dirty engine, insufficient oil, etc.

Non-Selling Bonus

A large Cleveland store is applying the following individual bonus methods for non-selling employees:

Wagon boys' bonus: Wagon boys may earn a bonus of $2 per week by regular and prompt attendance every day. If the boy is absent during the week without a reasonable excuse, he loses his entire bonus. If he has been at work every day, he loses 25 cents for each time he is late.

This plan has been successful in securing better and prompt attendance.

Bookkeepers' system of production payment: Billers are credited with 1 cent for each check billed. This includes forwarding on trial balance and balancing each

day's work, but does not include making the monthly balance on the biller's work.

Deductions. A deduction of 25 cents is made for each error in billing and a deduction of ten checks is made for each mistake in heading they pass. The bills are headed by girls who are not billers.

The period figured in computing the amount due each biller is from the fourth business day of one month to the third business day of the next, inclusive. At the end of this period she receives the difference between the amount paid her on her weekly drawing account and the amount due her at 1 cent per check, minus deductions.

The bookkeeping is done on Elliott-Fisher machines.

Elevator operators' bonus system: The elevator director, assisted by a committee of five people selected through the store, together with the recommendation from her assistants, grades each operator on the following points:

Punctuality	15
Courtesy and conduct	25
Personal appearance	20
Calling floors	25
Making stops	15
	100

Each operator making a monthly average of 95 or higher receives a bonus of $5. By the use of a bonus we have obtained gratifying results in the qualities listed above.

Production payment for sorting sales checks in the auditing department: Sorting sales checks consists of the following elements.

1. Collecting charge sales checks throughout the store.
2. Sorting checks into bins according to ledger, sorting out all employees' checks and others not handled in the regular ledger.

3. Auditing checks which includes verifying extensions and additions, making doubtful checks and writing clear.
4. Sorting checks into strict alphabetical order.
5. Running off an adding machine tape for each ledger.

Sorters are credited ¾ cent for each check they complete, and ten checks are deducted for every error made. At the end of the week the sorter receives her total earnings. No drawing account is given to sorters. The work is done by school girls between 4.00 p.m. and 8.00 p.m.

Delivery credit authorization production payments: Authorizations are made from a Rand Visible Index.

Delivery authorizers are paid ½ cent for each authorization. A deduction of 25 per cent is made for passing C.O.D.'s, bad accounts or no accounts. A deduction of 12½ cents is made for passing checks with any other kind of a mistake on it, as wrong address, wrong initials, or incorrect spelling of name.

At the end of the month the authorizers are paid the difference between the amount paid them on their drawing accounts and the amount due them at ½ cent per authorization less deductions.

Audit department tabulating card punchers production payments: A tabulating card is punched for each sale made.

Punchers are paid 15 cents per hundred checks punched, a deduction of ten checks being made for each error. They are given a drawing account, and all they make in excess of this is paid them weekly.

Audit department sales checkers' bonus: Each tabulating card is checked against a tally to see that all details are correct.

Checkers receive a bonus of $10 if no errors have been made for a period of one month. A deduction of 2 per cent of this bonus is made for each error. If

no errors are made for three months, an additional bonus of $5 is paid.

Measured Individual Bonus—Length of Service

Payments for length of service may be classified as individual bonus. Such payments are made by a number of stores as a reward for the "sticking qualities" of employees, and in some cases are accompanied by additional vacation periods with pay for employees of twenty-five years or more.

Among the stores making such payments are:

Davidson Bros. Company, Sioux City, Iowa. At Christmas, 1919, $25 was paid each employee who had been with the store five years; $50 for service of ten years; and $100 for service of twenty years.

Lord & Taylor, New York. In 1919, the following bonus payments, based upon length of service, were distributed:

Those in store continuously for:

10 years or more, to Jan. 1, 1920	$30.00
5 years and less than 10 years, to Jan. 1, 1920	25.00
3 years and less than 5 years, to Jan. 1, 1920	20.00
2 years and less than 3 years, to Jan. 1, 1920	15.00
1 year and less than 2 years, to Jan. 1, 1920	12.50
6 months and less than 1 year, to Jan. 1, 1920	10.00
Less than 6 months, to Jan. 1, 1920	8.50

The form of incentive used is a rating system upon which is based all promotions, salary increases and adjustments. Thrift is encouraged by offering through a local bank to give 4 per cent interest to any saving deposited there, in addition to the 4 per cent given by the bank. The personnel department also has control of employee's charges, deciding the amount which the employee may charge against his salary.

Measured Group Bonus

A number of stores have found it desirable to establish systems of bonus payments for departments or groups of employees, both selling and non-selling, where

the department has performed a task above the given standard in quality or quantity.

Instances of this type of bonus payment are:

Hager & Bro., Lancaster, Pa. Percentage of increase in sales by departments, ranging from 1½ per cent to 2½ per cent according to the nature of the department, divided among the employees of the department in proportion to salary. This is in addition to commissions paid individual salespeople upon all sales.

Hale Bros., Sacramento. A bonus fund equal to $5 per month per person is established for the credit office. Every error in billing, posting, etc., made by anyone in the department is charged against this fund, and whatever is left in the fund at the end of the month is divided prorata.

Jordan Marsh Company, Boston. A bonus distribution with features of both group bonus and profit-sharing plans is made. Each employee holds a given number of shares in the distribution ranging from three to sixteen, according to the responsibility of the position. For example, a salesperson holds nine shares, an assistant buyer twelve shares, a buyer sixteen shares. When the total fund to be distributed is determined, it is divided by the total number of shares outstanding, and the amount for each employee thus figured. The fund divided among selling employees is a fixed percentage of the increases in sales over the preceding year. The fund for non-selling employees is a fixed percentage of the increase in sales plus a fixed percentage of the increase in net profits, since the work of non-selling employees, through cutting down or holding down expense, has a direct effect upon net profits.

Chas. Korrick & Bro., Phoenix, Ariz. Each department showing an increase of business for a month of 25 per cent or more over the corresponding month of the preceding year receives a bonus of 2½ per cent, divided among the employees of the department on the

basis of their percentage cost—wage in proportion to sales for that month.

Bonuses for Attendance

The Boston Store of Milwaukee is experimenting with a system of giving a small bonus to the cashiers ahead of time, and the management is finding that this works a great deal better than the method of docking the girls in pay. Because of the success of this idea, there is some talk of extending the system to other classes of workers.

Espenhains, Milwaukee, also has worked out a method of rewards other than of penalties, with good effect. Here a bonus for general efficiency is offered and the matter of being punctual counts toward obtaining it. If a girl is on time, but does not attend to business after getting to the store, she will not get the bonus, yet if she is efficient all day long, but is careless about coming to work on time, it will be counted against her.

Profit-Sharing

Profit-sharing in its technical sense is not practised by any of the stores covered in this survey.

Stock Participation by Employees

Some of the stores allow employees to purchase company stock. Among these stores the following are typical:

Montgomery Ward & Company, Chicago. Employees have been permitted to purchase stock at a price considerably under the market value, and a number have taken advantage of this opportunity.

Sanger Bros., Dallas. When the corporation was organized in 1919, they offered $1,000,000 of common stock to employees at 50 per cent of its value, with the understanding that this $1,000,000 worth of stock

must receive 4 per cent dividends before the remainder of $8,500,000 common stock received any dividend. This stock was fully subscribed for by employees.

The Marston Company, San Diego, invites the purchase of company stock by all employees who have been with the firm more than three years. The only restriction on such holdings is an option which gives opportunity of repurchase to other employees if the holder leaves. About one employee in eight holds stock. The company's offer to employees may be considered as "financial incentive" but not as "compensation" as stock is not at all times available for purchase.

Miller & Paine, Lincoln, Nebraska. Much of the stock is held by employees, ranging from large amounts down to one share.

Rothschild Bros., Ithaca, N.Y. Have sold some stock to their employees.

The Bon Marche, Seattle, Washington, has a profit-sharing agreement with department buyers and assistant buyers, who receive 5 per cent and 2½ per cent respectively, of the net profits of their departments at the end of each year.

Bonus Payments

With the possible exception of commission and bonus payments to salespeople, the majority of payments in addition to regular wages by retail stores have been in the form of bonus funds among all employees in proportion to salary or to length of service.

These are generally distributed during the holiday season.

Among the stores which have made such distribution are the following:

Franklin Simon & Company, New York. In 1919, selling employees, except in men's shops, and non-selling employees, were given 5 per cent of salary for six

months preceding August 1; a similar 5 per cent payment was made for the five months period from August 1 to January 1, and selling employees also shared in a fund of 5 per cent of the total salaries of the employees of each department, distributed in the ratio of the sales of each individual to the total sales. This plan was later abandoned.

L. Bamberger & Company, Newark. The following distribution was made at Christmas, 1920:

Co-workers employed before Jan. 1, 1921	$20.00
Co-workers employed since Jan. 1 and before July 5	15.00
Co-workers employed on July 4 and before Nov. 7	10.00
Co-workers employed on Nov. 6 and before Dec. 12	5.00

These amounts were paid to the selling as well as the non-selling force. In order to receive the extra compensation, it was necessary to have perfect attendance from November 28, 1921 to December 24, 1921. It did not apply to a few departments where special arrangements as to employment had been made.

Hager & Bro., Lancaster, Pa. A bonus is paid semi-annually to non-selling workers, including workers in office, advertising department, delivery department, shipping room, porters, packers, wrapping department and cash boys and girls. Subject to efficiency shown during term; to be determined by recommendation of:

1. Superintendent and general assistants.
2. Heads of respective departments.

To those employed over one year, but less than three years—2 per cent of salary for term.

To those employed over three years, but less than five years—3 per cent of salary for the term.

To those employed over five years, but less than ten years—4 per cent of salary for term.

To those employed ten years and over—5 per cent of salary for term.

Departments have been graded into three groups. When a department shows a loss for any month compared with the preceding year, the salespeople therein receive a commission on their individual sales of ¼ per cent, ½ per cent or ¾ per cent. Should the department

show a gain for the month, above rates are doubled Should any departments show a gain for six months' period and yet show a loss for any number of months during the period, sufficient additional commission is paid at the end of the period to bring all months up to the double rate for the full term; that is they are given extra commission equal to that they have already received during the months showing a loss in the period.

TYPICAL PLANS[1]

I. Joseph Horne Company, Pittsburgh, Pennsylvania

Straight Salary and Bonus Plan

In non-selling departments the salaries of the various positions have been standardized and a minimum rate established for each position. Advances are made in February and August upon the written recommendation of the head of the non-selling department to the store manager, based on efficiency and length of service or promotion to higher positions.

A service bonus, based upon length of service and yearly salary, is paid to non-selling employees on the first of August for the year ending July 31st, as follows:

	Per cent of Yearly Salary
First Year's Service	1
Second Year's Service	2
Third Year's Service	3
Fourth Year's Service	4
Fifth Year's Service	5
All Over Five Years	5

Number of employees sharing in service bonus averages, fourteen hundred.

Drivers' Bonus

Drivers are paid a bonus of $30 each six months if they have had no accident during that period for

[1] The following plans are given in more detail so that the reader may see how the entire question of financial incentives is treated in each organization—Editor.

which they were responsible. They also receive an efficiency bonus of $15 if no serious complaints have been made against them pertaining to service. Drivers are allowed one week's vacation with pay and also participate in the service bonus of from 1 per cent to 5 per cent of their yearly salary, based on length of service; also half time up to four weeks when absent on account of accident or sickness.

Normal number of drivers is thirty.

Charge Authorizers' Bonus

Charge authorizers receive a salary of $13 per week, and in addition a bonus of ½ cent for each charge sales-check authorized in excess of a weekly quota of eighteen hundred and up to three thousand. For correct authorization in excess of three thousand per week they receive a bonus of ¼ cent each. A penalty of 10 cents for each incorrect authorization is deducted weekly from the bonus earned.

Normal number of charge authorizers is fourteen.

Sales Salary Plan

When salespeople are engaged they are paid the prevailing wage, explained the method of adjusting salaries and given their weekly sales quota. After two months their sales are reviewed, salaries increased if justified, and new quotas given.

Individual weekly sales quotas are determined by dividing the weekly wage by the department's average selling per cent for the corresponding six-month period of the preceding five years.

The salaries of salespeople are adjusted in February and August of each year in the following manner:

The total salaries paid the salespeople in each department for the six months preceding February and August are divided by the total sales of the respective departments for the same period to ascertain the average cost per cent paid for selling.

The average weekly sales for each salesperson is computed for the six months and multiplied by the department rate to find what each one has earned. If their sales warrant a higher salary than they are receiving, their salary is increased accordingly. If they have not earned their salary they are not reduced, but are called to the office, shown their record and requested to make an effort to bring up their sales.

At the expiration of the following six months, if they are not earning their salary they are either given a trial in some other department, or are dismissed.

In some departments salespeople will run behind the first six months and ahead of their salary the second six months. In that case we average their "worth" for the year and make adjustments on that basis.

Sales Bonus Plan

In addition to the above, a sales bonus is paid March first and September first, on individual sales in excess of quotas, at the department's average selling per cent for the corresponding period of the preceding five years.

Average number of salespeople about five hundred.

Method of Ascertaining Worth of Salespeople

Clerk Number	Weekly Salary	Av. Weekly Sales for 6-month Period		Dept. Rate for 6-month Period		Amount Earned	Increase Salary
9801	$19.00	$463.00	×	.04	=	$18.52	
9802	17.00	445.00	×	.04	=	17.80	$1.00
9803	20.00	491.00	×	.04	=	19.64	
9804	22.00	562.00	×	.04	=	22.48	.50
9805	14.00	331.00	×	.04	=	13.24	
9806	16.00	408.00	×	.04	=	16.32	.50
	$108.00	$2700.00				$108.00	$2.00

$\frac{\text{Wages}}{\text{Sales}}$ = Department Rate. 2700/108.00/ .04

The selling cost per cent in each selling department is determined in the manner shown above and the "worth" of individual salesperson in the several departments calculated therefrom.

II. Gilchrist Company, Boston

1. Commissions paid to salespeople.
   a. Throughout the year.

All salespeople in the store are paid a commission on sales. A monthly quota is set for each department and often for individuals in the department, with a bonus per cent after the quota is reached. The quotas are adjusted by the commission office according to the season of the year and market conditions.

   b. During the Christmas period.

From November 15 through Christmas an extra commission is paid all salespeople on their total net sales.

2. Bonus to non-selling people but excluding those under contract.

The bonus to non-selling people, excluding those under contract, is based on length of service and salary. A certain amount of money is set aside each year, a given number of points allowed for salary, a given number for service, and using this as a basis, the par value of each share is determined.

3. Bonus to non-selling people under contract.

Buyers, under contract, are given a percentage of net profits over the year before. (In estimating this bonus the indirect expense is not considered).

4. The Salary Committee with semi-annual adjustments of salaries.

A Salary Committee, consisting of the superintendent, the employment manager, the educational director, and the supervisor of commissions, meets weekly. Every individual is considered for an increase or promotion every six months.

5. The Gilco Credit Union.

The Gilco Credit Union is organized under the laws of Massachusetts for the purpose of encouraging thrift and aiding those who may be temporarily in need. Employees are encouraged to deposit weekly.

6. The insurance protection under the Employee's Association.

All employees of the store belong to the Employee's Association after one month's service and are automatically insured. The dues are 10 cents a week, and the benefit $6 a week, with a $50 death benefit.

III. Halle Brothers Company, Cleveland, Ohio

The bonus plans on which the Halle Brothers Company of Cleveland, Ohio, operates, divide themselves into two classes—selling bonuses or commissions, and non-selling bonuses.

Those in the first class are of the type based exclusively upon production. The sales clerk is given a guaranteed wage and a percentage of commission. If the established commission upon total sales is in excess of guaranteed wage, the difference is paid at monthly intervals.

The non-selling bonuses vary greatly in application, based upon the needs of the respective departments. Chief among these are the bonuses paid in the general office. These include billing machine operators, sales audit clerks who work on Hollerith punching and sorting machines, and merchandise recording clerks.

Principles of the Plans

The system of pay in these sections is based on the following principles:

1. A guaranteed wage.
2. A bonus for production.
3. A bonus for accuracy.
4. A penalty for errors.

These bonuses are paid monthly. Authorizing clerks

are paid premiums for the least number of errors made, in combination with a bonus for number of checks authorized. Premiums are paid also to package inspectors for errors caught. Delivery boys and cleaners are paid a substantial addition to their weekly salary for perfect attendance.

Bonus Plan for Executives

In the group of executives, comprising buyers and heads of departments, which would be equivalent to the rank of foremen in factories, salaries are paid almost exclusively upon the following plan:

The buyer's contract calls for a fixed salary. He is paid in addition thereto a bonus consisting of a percentage of the volume he secures, in excess of a fixed quota, with a further provision that he must make a required rate of gross or net profit, or both, to qualify for the bonus.

Employees Have Savings Bureau

The Employees' Association of the company conducts, as an adjunct to the association, a savings bureau. It is officered by some of the more responsible employees and funds obtained from deposits are invested by the Board of Trustees. Since the inception of this bureau, more than five years ago, there have been no losses. It pays regular dividends of 4 per cent per annum, and an extra dividend of 2 per cent. There is over $85,000 in the fund at the present time, and its operation is considered most satisfactory by the company.

Profit-Sharing for Executives

Profit-sharing plans, in the strictest sense of the word, are provided by the company only for a group of five executives, who are paid in addition to the fixed guaranteed salaries a sum which varies in direct proportion to the rate of net profit earned by the business.

Benefits and Life Insurance

The Employees' Association offers four classes of disability insurance, dues being from 25 cents to $1 a month, and disability benefits $3 to $12 a week, up to ten weeks. The company provides a group life insurance policy, with death benefits of $500 after three months' service, up to a maximum of $3,000 after eleven years' service.

Other activities of the employees are a restaurant, a choral society, a men's club, a women's club, a dramatic club, a store paper, a junior girl's club, a basketball team, a baseball team and a conference on business correspondence.

Details of Bonus Plans

1. *Buyers*: They are given a bonus conditioned upon volume, net gross of their department, final net showing of their department, or increase of sale over preceding year, depending upon the nature of the department and the object in view at the time the bonus is set up.

2. *Billing operators*: These operators receive a flat weekly wage which is called their drawing account, against which is counted the number of postings made per operator on the basis of a certain flat rate per posting. The billers are paid also for forwarding on the same basis. At the end of the month all money earned in excess of the drawing account is given them in a separate envelope. These operators are not charged with shortages.

3. *Attendance bonus for delivery boys and cleaners*: A flat amount, $1 for the boys, $2 for the women, per week, for perfect attendance during that time.

4. *Group bonus* for checking Hollerith tabulating cards in order to determine sales checks that are missing. The work of the preceding month must be completely cleared up and missing checks duplicated or accounted

for by the tenth of the following month. During the month all work must be kept within three days of the sale. If no errors are found against the checker a flat bonus is paid, providing all earn the bonus; otherwise nobody earns the bonus. There is a penalty for errors, because all must earn the bonus for anyone to earn it. When one girl is falling behind the others come to her assistance and are glad to do so in order to keep up the work. If any checker constantly falls behind, her case is taken up to see if she is unsuited for the work or chronically lazy, and personal work done accordingly.

5. The same type of bonus holds for the work in our *merchandise repairing bureau*, and the bonus is paid similarly.

6. *Key punching operators* are paid on the basis of a flat rate per hundred cards punched. The Hollerith Tabulating machine is used for reporting sales. There is a reduction here for errors.

7. *Commission plan* for the payment of *Sales-People.* The Salesperson has a flat salary, or drawing account, and to make this amount must sell a certain amount of merchandise, depending upon the percentage set up for the department. She is paid the same rate on all merchandise sold above the required quota. This payment is made monthly. Shortages are charged against the following month's commission, or carried along until the close of the year, when all shortages are wiped out. Each salesperson's case is treated as an individual matter, and all circumstances of the department considered in any action taken in her case if the shortage is not wiped out within a reasonable period.

8. *Bonus for delivery authorizers*: These clerks authorize for credit. There is a bonus for the clerk who authorizes the largest number of checks in the group and a flat rate set on each check which operates on the guaranteed wage and bonus basis in the same way that the other plan described operates.

IV. William Filene's Sons Company, Boston, Massachusetts

Floor Superintendents' Incentive Wage Plan

The present plan has been in effect since January 1, 1922. About fifty floor superintendents may participate.

The plan is in two parts as follows:

1. Each floor superintendent is paid weekly a commission on net sales equal to a fixed proportion of the average amount received in commissions by all regular salespeople in his or her department. This proportion varies, ranging from one-half to twice the average amount earned by the salespeople and is intended to yield about $100, per year for each floor superintendent.

2. Each floor superintendent shall be paid at the end of the year a fixed percentage, ranging from 20 per cent to 50 per cent on the improvement in department selling payroll expense including both salespeople and non-selling members of the selling division.

Floor superintendents listed under this plan shall not participate at the end of the year in any general bonus that may be declared. Inasmuch as this plan has been in operation for only two months we are unable to form much of an opinion as to results; however the plan so far seems to be working out well.

Salespeoples' Incentive Wage

Takes the form of a commission and provides for the payment of a certain per cent, on net sales, payable weekly. The rate varies from ½ of 1 per cent to 1 per cent in all departments except Men's Clothing (5 per cent) and the service departments (5 per cent to 8 per cent).

This plan has been in operation since September 1920 and is the most successful plan we have yet tried both from standpoint of the store and employee. At present about eight hundred and fifty people are working under this plan.

Billers' Incentive Wage Plan

The billers' incentive wage plan calls for the payment of 1 cent for each salescheck, credit slip or cash voucher (slip made out when accounts are paid at cash office window) posted to the ledger. An additional cent is paid for each error discovered by the billers, made outside their own department such as wrong account number entered on salescheck by the index clerk. A deduction of 10 cents is made for each error made by billers. The regular weekly wage is guaranteed even though it is not covered, that is, a girl working for $18 per week, even if she only makes seventeen hundred postings, receives her full week's pay. The extra remuneration is payable weekly.

The plan has been in operation since October, 1920 and has proven very successful. Since the inauguration of the bonus plan we have been able to keep our books balanced daily. We have been able to handle an increased business without adding any new people. The billers average in extra remuneration about $1 to $1.25 per week, about twelve employees participate under this plan.

Buying Bonus

Division managers, assistant division managers, Buyers, and assistant buyers may participate in the buying bonus, payable yearly. The plan calls for the payment of a percentage on sales in excess of quota and a percentage on gross profit in excess of quota after deducting actual buying traveling expense.

No payment will be made if either sales or gross profit fall below quota set.

Payments to an individual working in more than one department shall only be made if the minimum sales and gross profit percentage for the group of their departments have been exceeded.

If an individual working under the above arrangement is transferred during the year he or she shall be

paid the proportionate part of the year's accomplishment based on the time employed in each department or group of departments. Payments shall be made to individuals only if they have been in the employ of the store for the full fiscal year.

Any payments which may be due under this offering shall be subject to the general conditions laid down by the management that there shall be left to the business a certain minimum per cent of net profit to sales. In case it were necessary to reduce these payments the directors of the corporation shall determine how this reduction shall be made.

Plan has been in operation since September, 1920. About three hundred employees are eligible under this plan. Last year less than a third of those eligible earned a bonus. Generally speaking it is considered as fair as any plan heretofore in operation.

Incentive Wage Plan for Markers

This plan recognizes only increased efficiency and production as a basis for wage increases and eliminates the periodical wage increase.

By means of time studies a point standard is set for each weekly salary level. This point standard is based upon that piece of merchandise requiring the least amount of time to mark.

One handkerchief is given a point allowance of one and is used as a unit in determining the point allowance for marking other kinds of merchandise. It takes twice the amount of time to mark one corset, a corset is therefore given a point allowance of two, and so on.

A $12 per week marker must do on the above basis two hundred and fifty points per hour, regardless of the kind of merchandise she is marking, for every hour spent on productive work. Non-productive time such as training, shopping, attending meetings, lack of merchandise, etc., is not charged against the marker in determining the number of points required for the week.

Bonus is paid weekly on points in excess of the quota at a stated rate per thousand points.

If a marker for six consecutive weeks exceeds the standard number of points set for the next highest salary level, she automatically advances to that salary. Bonus then starts at production above this standard.

Thrift Encouragement Plans

Filene Cooperative Association (Credit Union)

About November 1, 1921, the Filene Cooperative Association Deposit and Loan Bureau became a Credit Union, operating on the banking laws of Massachusetts.

Mutual Benefit Association Plans

This society came into existence on January 1, 1921 and had a successful first year. The William Filene's Sons Company helped in starting the organization by contributing $20,000. The society for the year would have shown no balance had it not been for this contribution. It is our feeling that under more favorable conditions the society will make a much better showing.

Over seven hundred members shared in the benefits paid and six persons received the full extent of payments for twenty-six weeks during the year.

General Bonus

For the past two years employees not working under a definite wage incentive plan have been paid at the end of the year an amount equal to three weeks' salary. This bonus is neither guaranteed nor agreed upon and practically amounts to a gift from the management.

In announcing its policy on bonus agreements for the year ending August 31, 1923, the management of William Filene Sons Company has decided that better results will be obtained and a more equitable distribution will be made on bonuses if no attempt is made to set up sales

and gross profit requirements for departments in advance, as was done last year.

In a bulletin to employees, the store says:

> For division managers, assistant division managers, buyers, assistant buyers and floor superintendents the chief consideration will be the improvement in the merchandise profit showing, which depends largely on increase in sales volume and control of mark-ups, mark-downs and expense.
>
> For non-selling department, the consideration will be the contribution of the department as a whole and individuals in it to the total results of the store rather than a certain number of weeks' pay for every one not otherwise participating.
>
> The management, therefore, will, at the end of the fiscal year when results are known, determine the total amount available for bonuses and the method of distribution.
>
> Further study of opportunity for extra remuneration along the lines indicated by the plans now in operation, which provide for more frequent payments, will be made in the hope of improving present plans and developing new ones.
>
> The management calls attention to the definition of extra remuneration as being an "extra reward for an extra effort that brings an extra profit or an extra result definitely measurable by the management."

BONUS PLAN OF D. H. HOLMES COMPANY[1]

Our plan of paying employees—selling and non-selling—is worked out in this way. For ten years we have kept a careful record of the selling costs in the various departments of our store. For as many years we have budget records of the non-selling departments.

We find that selling costs vary all the way from 3.5 per cent to 6.5 per cent. Linens and domestics, for instance, we sell for 3.5 per cent; ribbons, we find, cost as high as 6.5 per cent. So in the linens and domestics department we simply ask that a girl's salary be not over 3.5 per cent of her sales—and that it never fall below our minimum wage for salespeople of $12 a week. To earn this minimum wage a girl must, therefore, sell $342.85 worth of goods a week, or $57.14 a day. If

[1] By F. W. Evans, President and Manager, D. H. Holmes Company. System. June, 1920. p. 1161-2.

a salesperson cannot sell enough goods in any department to earn $12 a week, we don't want him or her. If someone, seeking a job in a 3.5 per cent department, says, "Now I think I ought to get about $20 a week," we just turn to our charts and answer, "Very well, all you have to do is to sell $95.24 worth of goods a day; we shall gladly pay you $20 a week, and as much more as you can earn."

The commission plan on which we pay our salespeople is not, in its fundamentals, greatly different from the plans which are used by a considerable proportion of the more progressive retail organizations of the country. In some of its details it is out of the ordinary, I feel, and more than usually successful. And because the details hang inevitably on the framework of the plan, I am going to describe the whole thing here.

I have said that we require our salespeople to earn a minimum of $12 a week. But suppose a new girl, seeking employment with us, objects: "Now, I'm inexperienced at selling goods, and I probably won't be able to earn $12 a week at the beginning. I fear that you'll be wanting to discharge me in a little while because I can't produce my quota." Such a girl we put on what we call a probationary salary of $10 a week, until she will have had time to learn the business. Even at that she will be likely to cost us money for some time after she begins; but we are patient with novices. Unless a girl proves to our satisfaction that she is hopeless shortly after she begins work, we give her a whole year in which to work up her sales to where she earns $12. During that year we may change her from one department to another in an effort to discover the place where she fits in best. If within a year she cannot reach the $12 mark, we drop her; the indications are that she will never amount to much as a salesgirl. As a probationer she must be promoted or discharged within the year.

Now for the extra earnings. The girl who sells more than enough linens and domestics to earn her quota—on which her minimum wage is based at 3.5 per cent—gets an additional 2.5 per cent on her excess sales. In the silk department where we fix the cost at 5 per cent, she gets 4 per cent on her excess sales; in the ribbon section, where the cost is 6.5 per cent, she receives 5.5 per cent on excess sales; and so on.

"But," someone may ask, "If you figure the minimum wage in the linens and domestics sections on a basis of 3.5 per cent, why do you not also figure the bonus, or additional percentage at the same rate?" Our reply to this is that the 3.5 per cent rate is the maximum that we can afford to pay for selling in that department. We have endeavored to make the salary easy to earn, and have given the advantage to the salary end rather than to the commission end. Under no circumstances are we willing to let the selling expense exceed 3.5 per cent in this department; and we find that the differential between the salary basis and commission is not too great, as we push our employees up to the 3.5 per cent salary basis as rapidly as conditions warrant. This 3.5 per cent has to carry some dead weight such as the salaries of those who are absent from illness, the probationary employees who are not really earning their salaries, the few salespeople who now and then fall behind their quotas, and so on.

For every employee in the store there is on file a salary card sufficiently large to contain the record for a year. On the cards of the drivers, shipping clerks and others who make no sales, nothing is entered but the weekly wage; but on those of the salespeople is a careful record kept of each week's sales, and the commissions earned and paid. Picking one at random from the files, I find that it is the record of a girl whose weekly drawing account we have fixed at $14. Her sales quota, therefore, on a 3.5 per cent basis, would

be $400 a week. (Incidentally, we make settlements with the clerks every four weeks.) During the first four weeks of this year she sold $2,975.14 worth of goods. Her quota was only $1,600. She therefore exceeded her quota by $1,375.14, and earned a commission of $34.38. Of this we paid her $14 and held $20.38 in reserve for her. I shall explain this reserve feature later.

This girl was aided in greatly exceeding her quota by our big after-Christmas sale, which took place in January. In February she did not do so well, but still earned a little extra. Nearly all our departments are, of course, influenced to an extent by the seasons, by special sales and so on. However, we have salespeople whose total earnings average from $50 to $75 a week.

No matter how much any salesperson may earn, we make it a practise at our four-weeks' settlement period to pay him or her only 25 per cent in excess of her weekly salary. In other words, the girl whose weekly salary was $14 earned $34.38 additional during the four weeks, but of this we paid her only $14—25 per cent of her four weeks' salary. The balance we hold back for the six-months' settlement period. Twice a year we make settlement of the full balance due on commissions; some of our people frequently draw several hundred dollars at such times.

Part of the commissions is held back for equalization. For instance, we do more than 40 per cent of our jewelry business in December. It would be unfair to allow the salesmen in that department to get a tremendous commission check at the end of December, and then not make their quotas for the next several months. This reserve is thoroughly understood by all of the salespeople; they tell us that they would rather get their money thus in a lump sum than have it given out to them in small amounts every month.

They Know What They're Doing—So They Have More Interest

Of course, if a salesperson quits our service, the balance due on commissions is immediately paid to him, without waiting for the semi-annual settlement.

The file of salary cards is always open for inspection; employees frequently go to the bookkeeper in charge and ask to see their cards, to ascertain whether they are keeping ahead of their quotas. We are glad to see them take this interest in their progress; we instruct the bookkeeper in charge to help them in any way he can.

Every now and then a clerk—in the silk department, for example—will come to me with his card and say, "My sales have been large enough, I think, to entitle me to graduate out of the $25-a-week class and into the $30-a-week class." Of course, he wants his quota raised. He gets 5 per cent on his quota, and only 4 per cent on everything over that. If his minimum wage is $25, he must sell $500 worth of goods to earn it. If he sells $600 worth, he will get only 4 per cent on the additional $100 worth, which will net him $29 a week. But if his minimum wage is set at $30, the same $600 sales will draw it for him. To get that additional dollar per week, he is willing to assume the risk of falling behind the increased quota, and thereby getting into trouble with us.

Twice a year we go over the cards and, noting everyone's increased sales, we raise the quota of each to the point where it will still give him a comfortable working margin, the salary being raised in proportion. We try never to assign anyone a quota so high that he will be in danger of falling behind it. But if any salesperson has honestly achieved a certain quota, and then begins persistently to fall below it, we begin to seek the cause. Perhaps the employee is in poor health; perhaps there

is sickness or trouble at home; there may be other reasons. We take these into consideration in handling the case; but if nothing appears save negligence or lassitude to account for the falling off, we feel compelled to discharge the salesperson. Anyone who has attained a given volume of sales should, we feel, be able to hold it or increase it. There should be no retrogression.

What the Salary is Based on

DEPARTMENT	COMMISSION BASIS
Linens and Domestics Furniture Women's Ready-to-Wear Furs Floor Coverings	3.5% and 2.5%
Knit Underwear Hosiery Umbrellas	3.5% and 3%
Gloves House Furnishings	4% and 3%
Ladies' Waists Sweaters	4% and 3.5%
Corsets Petticoats Laces, Embroideries China, Glassware Muslin Underwear Infants' Wear Men's Furnishings	4.5% and 3.5%
White Goods Colored Dress Good Silks Toys Trunks, Bags Men's Clothing Draperies Silverware	5% and 4%
Stationery, Books Kodaks Women's and Children's Shoes Men's Shoes	5.5% and 4.5%
Jewelry Leather Goods Art Goods Women's Neckwear, Handkerchiefs, Veiling Millinery Boys' Clothing Notions	6% and 5%
Ribbons	6.5% and 5.5%

CHAPTER XVII

COMPENSATION OF SALESMEN

HOW SHALL WE PAY OUR SALESMEN?[1]

What is the best plan for paying traveling salesmen?" This question is frequently asked. The answer is—there is no "one best" method. Practically every method in use has its elements of strength, and each is advisable under appropriate circumstances. Likewise, every method in use has its limitations, and is undesirable, under certain other conditions.

Too frequently executives deeply impressed with the success achieved by the plan in use by some other firm have copied the plan, and have endeavored to introduce it in their own businesses. In many cases, this has been a mistake. Simply because a plan of salesmen's compensation works well, and secures desirable results, in one line of business, or with one firm, is no indication that it will prove equally successful in other lines of business, operating under dissimilar circumstances.

Occasionally, some executive writes an article or delivers an address in which he claims to have devised the "most satisfactory" plan of salesmen's compensation, and in which he condemns all other plans as inadequate or unsatisfactory. In such cases, doubtless the plan described is best—for his business. But it might prove disastrous for some other business, confronted by entirely different problems.

The difficulties in working out satisfactory plans of salesmen's compensation are due largely to two reasons:

[1] By Ralph E. Heilman, Dean of Northwestern University School of Commerce. System. 40 : 411-49. October, 1921.

their work is not susceptible of close personal supervision; and they are required, under varying conditions, to perform numerous and diversified functions.

"The straight salary plan is all wrong, in principle," says a recent writer on this subject. Ordinarily, there are more desirable methods of compensation. But there are circumstances under which the flat salary is not only not wrong in principle, but under which it is the only practicable and feasible method.

For example, salesmen are frequently employed to do work which is largely "missionary" in its character. It may be frankly contemplated that their work is largely promotional and developmental. Their job is to call on the trade, demonstrate the product, "talk it up," familiarize the public with it, in short, to create the demand. It is expected that their efforts will result, not in immediate orders, but rather in future sales—after the demand has been created. Such is the type of work frequently expected of salesmen engaged to introduce a new product.

"It will take us five years to develop that territory on our product," said a sales manager recently with regard to a western territory in which a commodity was being introduced. "During the first two or three years, we shall probably cover it at a net loss, and our salesman there may not make his expenses. But we are going to develop it intensively, for it will pay handsomely—in the long run."

When salesmen are employed under such circumstances, they become "ambassadors" for the house. They are not order takers, but business developers. No plan resting upon bonus or commission on sales would suffice—because the sales do not come until later. Here, doubtless, the best method of compensation is the flat salary.

Under circumstances of this kind, the flat salary not only provides guaranteed livelihood, despite the absence

of immediate sales; but also it enables the sales manager to maintain almost absolute control over the salesmen. He can route them from point to point, instruct them how long they are to remain in each city, and whom they shall call on; he can require them to make out detailed reports, require them to make small towns, and so on. Such control is essential when the work is largely developmental. But it is not easy to secure it, unless the salesman feels that his time belongs to the house. And he does, when the house is paying for it, in the form of salary.

Other circumstances may justify the use of the flat salary method. For example, a large milling establishment in Minneapolis pays its traveling salesmen flat salaries. They sell flour directly to local bakers. Frequently a complaint arises regarding the flour. The baker may report that it does not work up properly in the bread—the product is unsatisfactory. This is particularly likely to arise with a new customer who is not familiar with the methods of mixing or using the flour, or with an old customer who has bought a new brand of flour. All these traveling salesmen have, themselves, been practical bakers. As soon as such a complaint is received the salesman in whose territory the complaint originates is immediately notified. He returns, at once, to visit the customer. He demonstrates just how to mix and use the flour, and thus makes a proper adjustment. Obviously, when traveling salesmen are used for such purposes, the flat salary is the most satisfactory arrangement.

Other firms use traveling salesmen not only to sell, but to dress show windows, to give demonstrations to the retailers' local trade, and so on. When the house calls upon the road salesman to perform functions other than direct selling, such as those mentioned, which encroach upon the time he might otherwise give to pushing sales directly, the flat salary, with or without expense

account, is likely to prove a most satisfactory arrangement. For, when they are working on a flat salary the salesmen do not feel resentful because of being required to perform these other time-consuming duties, since they do not lose commissions or bonuses which they otherwise might earn during this time.

Of course, the weakness of the flat salary system is that it does not provide a strong incentive to push sales. It does not offer a strong inducement to increase volume. Ordinarily, it does not draw out of the salesman the full exercise of his capacities and abilities.

Most salesmen paid on a flat salary basis will not be "on their toes" all the time, to do their best. Therefore, the use of this method is to be recommended only under some of the special circumstances suggested. But it is not to be forgotten that these special circumstances do exist. As a method of compensation, the flat salary has its place—although, of course, not a universal place.

These Plans Overcome Some of the Disadvantages of a Flat Salary

In some cases, the dulling effect of the flat salary is overcome through the salesman's hope that advancement in salary will come if he makes a good showing. The president of a confectionery business in Iowa declares: "Our method is to advance the salesman's salary when extra effort appears to increase total volume."

Some establishments have gone so far as to introduce automatic salary advances. Arguments over increases in salary are likely to arise when all or a considerable part of a salesman's compensation is obtained in the form of salary. Unless these are settled in a manner which is mutually satisfactory, the salesman's enthusiasm is likely to be undermined. The automatic salary adjustment is used to obviate any such arguments.

Under these plans, a fixed salary is agreed upon, with the arrangement that the sales shall constitute a

certain multiple of the salary. On all sales over this amount, the salesman will be paid a specified commission. His salary, plus his total commission earnings for the first year, will become his "basic salary" for the second year. To this will be added his commissions on sales, provided his sales exceed those of the first year. The plan operates the same way in each succeeding year. It is cumulative in its effects.

Thus, his basic salary readjusts itself each year. And he always has the incentive to push his sales above the preceding year's quota, for by so doing he not only earns his bonus in the current year, but also increases his salary, correspondingly, for the following year.

It is doubtful whether this plan is to be recommended for general use. Due to an unusually successful or prosperous year, the house might become obligated to a salary the continuation of which the salesman's normal volume would not justify. One firm which had adopted this plan some years ago found itself greatly embarrassed by the unforeseen conditions brought about by the after-war conditions. In 1919 the demand for its products was abnormally increased. Its prices mounted abnormally high. The result was that the salesmen's volume of sales, in dollars, increased greatly over that of preceding years, although through no increased efforts or greater ability upon their part. Most of them did, in the first six months of 1919, a larger volume than in any previous entire year. Their commissions were abnormally large. Not only that, but the house was obligated to use as the basic salary for 1920 their total earnings for 1919, although it was extremely doubtful whether the volume for 1920 would justify such salaries.

I do not know, but I should not be surprised if that firm found a way to let out many of those salesmen, rather than continue to pay them abnormally high salaries.

This plan for automatic salary adjustments could be

satisfactory only so long as the price level remains fairly uniform. But with a rising price level it works unfairly to the firm, and with a falling price level it works unfairly to the salesmen.

It is conceivable that this defect could be overcome by eliminating dollars as the yardstick of sales, and substituting units sold—for example, so many dozen, pounds, gross, or carloads. But this would be practicable only when the salesman carries a single line, or a few uniformly measurable lines.

Realizing the defects of the flat salary, some houses have added to it a periodic or annual bonus, representing an arbitrary allotment, determined upon by the management, after the close of the year, or period. Under this plan salesmen are paid regular weekly or monthly salaries throughout the year, and at the end of the year an additional lump sum bonus is paid, the amount of this bonus resting at the discretion and judgment of the house.

For example, the manager of one firm says: "We pay all our traveling salesmen on a flat salary basis. However, at the end of the year we pay each of them an additional bonus. The size of this additional bonus is determined upon by the sales manager, in consultation with the general manager. They study the man's sales record during the year. They compare it with his previous sales to see whether or not he is improving. They consider the possibilities of his territory and any favorable or unfavorable industrial conditions which may have existed in his territory; his general attitude and spirit of teamwork, his promise for the future, and so on. In the light of all these considerations, and with due regard for the firm's earnings during the year, they reach a decision as to the amount of bonus which should properly be paid each salesman. A check for this amount is accordingly issued to each."

In other words, the amount of the bonus is deter-

mined entirely by the salesmen's superior officers—not by the application of any set formula or yardstick of definitely measurable results, but by the exercise of their "best judgment." This method was officially endorsed, a short time ago, by an important national association of jobbers.

This plan assumes that the management will deal as fairly and as generously with the salesman after he has made his sales, as it would prior thereto. In many cases, this assumption would not be justified by the facts. Further, the opportunity for honest difference of judgment, as between the manager and the salesmen as to how large the bonus ought to be, is great, and since there is no definite plan, and no standard fixed by previous agreement, many "sore spots" and grievances are likely to result.

Of course, the payment of an annual bonus at the discretion of the management, frequently produces a feeling of genuine appreciation, good will, and cordiality toward the corporation. Such payments are frequently made on Christmas or New Years. They are delightful evidences of the holiday spirit. As such, they are not to be condemned. But it is a mistake to regard such bonuses as a part of a "plan of compensation."

When such bonuses are paid, they should not be regarded, in any sense, as a part of the employee's regular compensation. Such a vague and arbitrary plan could not be expected to motivate a salesman throughout an entire year. Clearly, if an effort is to be made to use a plan which will effectively stimulate and energize the salesman, the plan must be on a more definite and businesslike basis. An effective stimulus will be supplied only if the salesman's extra compensation is closely related to his individual results—particularly if these results are susceptible of measurement on some predetermined and prearranged basis. Further, this basis should be made definitely known to him, in advance, whenever possible.

The desire to measure the results of the salesman's efforts, and to pay him accordingly is the basis of the commission system. Aside from the fixed salary, probably this arrangement is the most common method of payment. There are countless varieties of commission plans. In some cases, the straight commission is used with no guaranteed salary whatever.

One automobile accessories firm justifies this with the argument that it knows what percentage of sales it can afford to pay out, for selling expenses; that in reality its salesmen's compensation, regardless of the form in which paid, will always be determined by this percentage. Therefore, it regards it as better to pay this percentage on all sales, outright, without any further obligations in the form of salary, or drawing account.

Under this arrangement, a good month or a poor month immediately reflects itself in the amount of the salesman's check, since he receives no other compensation. Therefore, his incentive is a very immediate and direct one. He is made very sensitive to his sales record.

Of course, this plan weakens the control of the house over the salesman. He is likely to feel no obligation to follow a route mapped out by the sales manager, nor to make reports, nor to work continuously. He regards his time as his own, and will work when and as he pleases. There is the danger that he will not work his territory thoroughly, but that he will simply "skim the cream."

In spite of these objections to the straight commission plan, high-grade specialty salesmen generally work on this basis. It seems best suited to them. For such men, who have confidence in their own ability, and who concentrate on the sale of one item, a guaranteed salary frequently has little significance, and they often prefer the straight commission, and the independence of action which goes with it.

In order to secure a better control over their com-

mission salesmen many firms prefer to pay a guaranteed salary in addition to the commissions. One sales manager says: "This enables the house to supervise the use of the salesmen's time, to require daily reports, to route them, and to insist upon a definite amount of development work."

It also insures the salesman a guaranteed livelihood, which, for men with families, is sometimes important. Unless a firm is willing to turn its salesmen loose, with little or no supervision, there can be little doubt that the guaranteed salary is a desirable supplement to the commission method.

There are three outstanding types of the commission plan. Under the usual arrangement, the salesman is paid a uniform rate or commission on all sales—or, if guaranteed a certain salary, a uniform rate of commission on all sales above a definitely fixed amount.

This plan of a uniform rate of commission is most usually employed when the commodity or line sold is subject to repeat orders, from regular customers. This plan is in use by many clothing manufacturers, and by manufacturers and jobbers in shoes, men's furnishings, and so on.

But in many other cases the line carried is a "one-sale" specialty. That is, the salesman does not build up a clientele of regular customers, but sells his commodity only once to each customer. Follow-up business and repeat or regularly recurring orders are not expected. Under such circumstances, some houses have found it highly advantageous to use a "sliding scale" rate of commissions, similar in principle to the Taylor differential piece-rate for factory workers.

Under this plan, there is a marked increase in the rate of commissions as the volume of sales increases. Ordinarily, a quota or goal is fixed upon which the standard rate of commissions is paid. All excess sales, beyond this amount, are grouped into steps—with an increasing

rate of commission for each step, or graded increase in sales. For example, one firm pays its salesmen according to their orders as follows:

Volume of Orders	Commission Paid on Entire Volume
$ 50,000	5 per cent
$50,000 to 60,000	6 per cent
60,000 to 70,000	7 per cent
70,000 to 80,000	8 per cent
80,000 to 90,000	9 per cent
90,000 to 100,000	10 per cent

Among the firms which have used this plan with special success are automobile general agencies; firms selling vacuum cleaners, cooking utensils, and so on, to housewives; and publishing firms which sell subscription books and special sets of books. In practically all of these lines it is not necessary or customary for the salesman to rely on repeat orders, or on the development of a regular clientele. Rather, he must constantly seek and find new customers.

This arrangement is especially well devised for such business. For here it may be justifiable and desirable for the salesman to "push" his prospect more vigorously than if he were calling on him regularly, month in and month out. The plan encourages the salesman to put forth his most aggressive effort, with every prospective purchaser, with the hope that each additional order will help to "put him over" into the next higher commission rate.

Neither of the above commission plans ordinarily differentiates between the various lines which the salesman may carry. Both offer a uniform commission, regardless of the lines sold. Therefore, neither is well adapted to the salesman who sells several or many different commodities, each of them yielding a varying percentage of profit for the house. For under both of these salesmen's commission plans, the emphasis is entirely upon volume of sales.

But some of the lines carried may yield a large margin of profit, some may yield an average or normal margin, others may yield a small margin, some may yield no margin at all or be carried at a loss. But to the salesman this variation makes no difference if he receives the same commission on all.

He is interested only in the aggregate volume of his sales, since he receives the rate on all sales made. So he is likely to push those lines which sell easiest, or on which his volume counts up most rapidly. But these may be the very lines on which the net profit for the house is small.

A Commission Plan That Helps Profits

To overcome this situation some houses have introduced the "classified commission" plan. This offers an incentive to push the sale of the most profitable lines. The various lines sold are classified into groups in accordance with the profit on each.

Those which produce substantially the same margins of profit are classified together in the same group, and a different commission is paid upon articles in each group.

This plan is used by a number of wholesale grocers, wholesale hardware houses and by other firms carrying many diversified lines.

For example, one jewelry jobbing house divides its lines into three groups:

Group A—Diamonds (including all stones and jewels).
Group B—Jewelry (gold- and silver-plated jewelry, chains, rings, pins, lockets, and so on.)
Group C—Watches (including six lines of watches, and also watch cases).

There is a great difference on the profit obtainable on these three general lines of merchandise. Therefore, instead of paying a uniform rate of commission on all sales, a varying percentage is paid to the salesman on sales from each group. Thus, the salesman is given an

incentive to push those lines which are most profitable for the house; his commission on these articles is larger. The basic principle is that the salesman profits as the house profits.

There are many firms today, carrying numerous items of merchandise, but paying a uniform commission, which could greatly improve their plan of compensation and render it more effective by such a classification of lines.

PAYING SALESMEN TO GET RESULTS[1]

Profit-sharing is one of the newer plans in use for paying salesmen. Already, a substantial number of houses have introduced profit-sharing plans for their men. Their experience has sufficed to demonstrate that profit-sharing plans, like the others herein described, are admirably adapted to certain types of business, to certain conditions, and to secure the performance of certain functions.

There are two types of these profit-sharing plans. Some houses pay a flat salary plus a definitely established percentage of the profits of the entire business. For example, the Dennison Manufacturing Company pays its senior salesmen (together with certain other of the more responsible employees) a percentage of the company's profits. A Chicago corporation engaged in merchandising machinery divides among its salesmen a percentage of the profits earned by the business as a whole. Such plans rest upon the principle that sharing in the general prosperity of the business will develop among the salesmen a strong attitude of cooperation and team-work, an intense loyalty, a sense of partnership, and therefore a feeling of deep responsibility for the success of the business.

When it is not practicable or feasible to pay salesmen

[1] By Ralph E. Heilman, Dean of Northwestern University School of Commerce. System. 40 : 561-89. November, 1921.

on any sort of commission, bonus or measured basis, and when they must therefore be paid primarily a flat salary, it may be that such profit-sharing plans will tap the salesman's hidden reserves and draw out of him something more than would the flat salary. If so, the share in the company's profits may prove a desirable supplement to the flat salary.

However, most of the profit-sharing plans in use for salesmen supply a more direct and immediate incentive than the chance to share in the general profits of the concern. Most of them tie up his extra compensation to his own efforts, by permitting him to participate, not in the general profits of the business as a whole, but rather in the particular profits yielded by his own orders, or by the business secured by him. These may be regarded as "individual profit-sharing plans," rather than general.

Among the firms which are using this "individual profit-sharing" arrangement are Sprague Warner and Company, Seeman Brothers, Vander Voort Brothers, Klauber Wangenklein, J. E. Humphreys and Company, George Worthington Company, Francis H. Liggett and Company, and the Parsons and Scoville Company.

This method is not to be universally urged, any more than the plans described above. However, it is clear that there are some types of business to which it is admirably well adapted.

One of the conditions under which its use may prove successful is when goods are not sold on the "one price" basis; that is, when absolutely fixed prices are not maintained. There are lines in which traveling salesmen are permitted leeway in quoting prices. Within limits they make their own prices, with due regard to competitive and other conditions. This is true, to a considerable extent, with salesmen selling groceries, spices, teas, coffees, and canned goods. When salesmen operate under these conditions, there is always a strong pressure to cut prices

if necessary, in order to obtain the order—unless they are penalized for so doing. When they are paid on the uniform commission basis, the classified commission basis, or a bonus on excess sales, there is always an insidious temptation to slash prices to obtain the sales. For making a sale, even at a cut price, produces a commission for the salesmen, but it may mean no profit—or even a loss for the house.

But when the salesmen's extra compensation depends upon the actual net profit produced by his orders, he is not likely to slash prices unnecessarily. As a partner and profit-sharer, he feels his responsibility for getting a reasonable price.

Again, there are other houses which rely upon their salesmen to make credit investigations, and reports as to the credit standing and responsibility of the customer to whom the goods are sold. This is particularly true of smaller houses. The larger ones frequently relieve the salesmen of this function, and delegate it entirely to the credit department.

If a house depends to any considerable extent upon its salesmen to discharge this function, a commission system is clearly dangerous. When he is paid a commission or bonus on his volume of sales, the salesman is likely to take on overly optimistic view with regard to the customer's credit standing. But when the salesman depends, for his extra compensation, upon the net profits yielded by his business, or by his territory, he is likely to be much more conservative with regard to his credit reports.

The president of one of these concerns says of this plan: "In making this profit-sharing distribution we deduct the lost accounts in the salesman's territory. The purpose of this arrangement on lost accounts is to have the salesman directly interested in the collection of accounts and in furnishing our credit department with reliable information."

The Circumstances Which May Make Profit-Sharing Payment Best

Occasionally, salesmen are even used to make collections. A hardware jobbing house in St. Louis, which sells largely in the rural towns of the Southwest, reports that this is one of the functions regularly performed by its salesmen. Its village customers do not send their remittances in to the office, but make them directly to the salesman on his regular trip. Thus it becomes one of his functions to keep collections up.

A house in Chicago, which uses the individual profit-sharing arrangement with its salesmen, and which sells to many very small retailers, has this clause in its profit-sharing contract: "Second party (the salesman) agrees . . . when requested . . . to assist in collecting doubtful or delinquent accounts which may arise in his territory, without any compensation or expense whatever." Another firm, using the same plan of compensation, reports that it uses its salesmen regularly to call upon customers about past-due accounts.

It is clear that if the salesman is to be used also as a collector of accounts, his plan of compensation must take this fact into account, and must offer some special inducement for the performance of this function. Such an inducement is offered, in these individual profit-sharing plans.

Still another circumstance which leads some firms to use the individual profit-sharing basis is the necessity of requiring the salesman to carry many lines, yielding different percentages of profit to the house. As has already been described here, some houses have met this situation by the use of a classified commission plan, under which a different percentage of commission is paid for sales in each group. But other houses have found it more satisfactory to meet this particular problem by the use of individual profit-sharing.

In some kinds of business—for example those dealing in groceries, general merchandise, food products, vegetables, fruits, perisable provisions—the lines carried are very numerous, and the profits yielded on different lines are very diverse. Under a classified commission plan changes in classification of commodities from group to group would be frequent, due to changing costs and fluctuating market conditions. Such frequent changes in classification are likely to be resented by the salesmen. But under individual profit-sharing such market changes do not require a change in classification, nor a shift in the basis of compensation, since the salesman is simply paid a percentage of the profits on all sales.

In these individual profit-sharing plans the usual arrangement is to pay the salesman a percentage on all the profits arising from his sales, or in his territory. This is frequently paid him as his sole compensation, with no guaranteed salary whatever. A New York firm engaged in importing, manufacturing, and distributing food products, reports that it pays as full compensation for all services from 30 per cent to 33 per cent of profits to its city salesmen, and 40 per cent to out-of-town salesmen whose traveling expenses are naturally greater.

The arrangement usually provides that a specified percentage of net profits shall be paid the salesmen, a manual containing the basic or cost price of all merchandise being placed in the hands of the salesmen for their guidance. Ordinarily, a uniform percentage is added by the house to the actual costs, to cover administrative and overhead expense.

One midwestern jobbing house, employing this plan, uses the following phraseology in its contract: "The second party (the salesman) hereby agrees, that in determining the net profit on sales made by him or to his trade, he will at all times accept as conclusive, and be bound by, the cost price on merchandise that may from time to time be given him by the first party, and

in determining such net profits the cost prices and net profits shall be arrived at by the system and in the manner now and heretofore practised by the first party."

But the profit-sharing payment is not always the sole compensation. The profit-sharing principle can be combined with a guaranteed salary, if desired. Thus, a large hardware jobbing firm in Cleveland pays a fixed salary, plus a percentage on individual profits.

Enough has been said to indicate that if salesmen are expected not only to sell, but also to perform certain other important functions which affect credits and collections, adjustments and complaints, and the margin of profits on goods sold, profit-sharing may prove highly successful. Indeed, if all or most of these factors are present profit-sharing will probably constitute the best arrangement. For then the net profits arising on the salesmen's business is the best measure or yardstick of his success, and of his value to the firm.

Some sales organizations are making an effort to apply the principles developed by the scientific management movement, in factory and shop work. The principle underlying practically all scientific management shop plans is to divide and subdivide the work into its various parts, and to pay the worker for his performance of these various functions, his performance of each being definitely measured. While many objections are brought against these scientific management plans, it is indisputable that in many cases the output of the workers has been tremendously increased through them.

In making an application of this principle to sales work, the work of the salesmen is broken up into its various separate parts and functions, a standard price being established for the performance of each of these tasks. For example, one firm whose salesmen make a house-to-house canvass pays them 30 cents for original calls, 25 cents for repeat calls, and 50 cents for demonstrations, regardless of sales made. On this particular

household commodity a commission of $4 is also paid for each sale. Where this plan has been tried, it is reported that the number of calls made, and of demonstrations made, has greatly increased—thus giving a much more rapid, and a more intense covering of the territory.

A plan of this kind is well adapted for firms the salesmen of which do house-to-house soliciting, or which do not require the services of high-grade salesmen. Such a plan is likely to keep them steadily on the job.

Sometimes a "Point Plan" Fits the Conditions Best

But superior salesmen would probably object to such a method. They would be likely to argue that as long as they succeed well in turning in the orders, they do not purpose to accept such minute regulation and supervision of their daily work. Further, the requirement of making reports for each day's work, in such detail, would not be adapted to their temperament, nor to their habits.

Some houses are using a modified form of this so-called scientific management principle through so-called "point system." In these, the salesman is largely relieved of making special reports, his "points" being computed and recorded by the house.

These plans provide for the payment of commissions on sales, to which are added additional payments for the accomplishment of those other special functions which it is desired the salesman will perform. Each of these functions is weighted, or appraised in terms of "points." The salesman's extra point-bonus depends on the number of such points accumulated to his credit.

For example, a number of points may be allotted to such results as the securing of each new account, the increase of each old account, each call made, the decrease in the ratio of gross to net sales, or the decrease in

the ratio of expense to sales. For each of these points a fixed amount say $1, is paid. The Bauman Clothing Corporation uses such a plan, and against these points credited to the salesmen's account it makes deductions, in points. For example, these acts bring a specified reduction in points—each old account lost, each account decreased, an increase in ratio of gross to net sales, or a failure to call on a specified number of retailers.

A Cincinnati jobbing house, in addition to paying a regular salary and commission, has an interesting point plan. Salesmen are given points as follows, on a monthly basis:

Each new customer sold	3 points
Each new prospect to whom goods are shown	1 point
Each suggestion submitted and accepted	4 points
Decrease in ratio of gross to net sales compared to corresponding month of preceding year	30 points
Increase over sales of corresponding month of preceding year	25 points
Decrease in ratio of expense to sales compared to corresponding month of preceding year	15 points
Acknowledgment on day of receipt of all communications from sales department	10 points
For each new town visited	5 points
No complaints from customers regarding salesman	5 points

For each point, a money value is established. A bonus is paid monthly, based upon the number of points earned during the month.

If such a point plan is to be used, the character of those acts for which points may be given and the relative importance to be attached to such acts will, of course, depend upon the type of business. Such a schedule of points could be worked out for most businesses to provide a special incentive to do those things which would best promote the interests of the particular business. Such plans not only offer a financial incentive to the salesman with regard to his "outside value" (that is, his value entirely aside from his direct volume of sales),

but also they serve to call his attention emphatically to these outside values. They help him to realize that his value to the house depends not only on his volume of sales, but also upon his development of new trade, his offering of valuable suggestions, his promptness and willingness in cooperating with the home office, his reduction of cancelations and bad accounts, his cutting down the sales expense, and so on. The plan serves to set these phases of his work constantly before his mind and to direct his attention clearly upon them.

Such point plans could not, of course, provide the principal source of income, for the salesmen. But they may well be used together with flat salary, uniform commissions, classified commissions, or profit-sharing, as a supplementary form of payment. It is reasonable to expect that we shall, in the future, see a much wider use of such plans, which offer special rewards for the performance of specific acts of omission and commission.

The quota or task principle may be used as a part of practically any compensation plan. Indeed, unless it is clearly established for him by the house, the typical salesman will, consciously or unconsciously, establish a quota for himself. Every salesman has a standard of what he thinks he should earn. This standard is based upon his previous earnings, his standard of life, the amount required to maintain himself and family in accordance with their accustomed standards of comfort, the earnings of his associates, and similar considerations. An income less than this will arouse his resentment and dissatisfaction.

One man places himself "in the $5,000 class." Another places his mark lower, another one much higher. The danger is that when he has reached this mark he will slacken his pace and rest on his oars. There is always present the temptation, after the salesman has reached the mark set for himself, that he will be indif-

ferent to difficult prospects, and that he will cover the territory less thoroughly. Having reached what he regards as an adequate compensation or a satisfactory income, he is too likely to be satisfied, and to become less alert. Then the employer does not continue to get the full exercise of the salesman's abilities.

In order to offset this lurking danger, the house, not the salesmen's standard of comfort, should determine the quota. The quota should represent the amount of sales, a season, or a year, which can reasonably be expected from the salesman, provided he meets a reasonable standard of efficiency.

I shall not discuss the methods by which such quotas may be established. Various methods have been worked out—based upon total population in the salesman's territory, upon "balanced population," that is, that part of the population which will, presumably, constitute potential purchasers, and upon many other considerations.

Frequently, when the salesman carries diversified lines, it may be wise to differentiate between these lines in the determination of his quota. Otherwise, he may reach his quota simply by pushing the lines which sell easiest, or which count up in money most rapidly. Such a course may be highly undesirable and unprofitable to the house. To offset this danger, some firms have introduced the "split quota," a quota within a quota. The total quota is subdivided by lines or groups of lines, so that the quota for each group will bear approximately the same gross profit.

Thus, if the year's quota is set at $350,000, it may be made up by the following groups:

1	$60,000
2	70,000
3	50,000
4	80,000
5	25,000
6	30,000
7	35,000
	$350,000

Under this arrangement, the bonus may be paid on each individual line after the quota on that line has been reached. Or, it may be paid only if the aggregate amount is reached. If the aggregate is reached or exceeded, but if there is a deficit in some one group, this must be made up by excess sales in some other group, in such a way that the excess sales will have a relative importance to the total, equal to the deficit.

For example, in the quota above, assume that the salesman falls $5,000 short of the quota in group 5, but runs ahead of his quota in group 3. It would require $10,000 excess sales in group 3 to balance a $5,000 shortage in sales in group 5. For, the aggregate quota requires two times larger volume in group 3 than in group 5.

Either through the use of an aggregate quota, or a split quota, a definite goal or object should ordinarily be established, regardless of what plan of compensation is used.

When the quota is used with the flat salary, the understanding is that the salesman cannot regularly obtain less business than indicated by the quota, and continue to justify his salary. When used with the salary plus commission, or salary plus bonus, it is usually provided that the commission or bonus is to be paid on sales in excess of the quota. Even with the profit-sharing plan, the quota can be used to establish a definite goal or objective—a standard of reasonable expectation.

Thus, the quota principle can well be embodied in almost any compensation plan. But it is, of course, always essential that the quota shall be worked out, established, and adjusted with marked care.

This study has served to indicate clearly that no plan is uniformly applicable. No single plan will succeed under all conditions. On the other hand, practically every plan now in general use will succeed, under certain conditions. The concern which wishes most effectively to energize its salesmen cannot simply copy a

plan used by another firm. While it may profit by a study of the principles involved, experience has shown that it must make its own application of these principles, in the light of its own conditions.

The plan which succeeds must be worked out in detail, to fit the individual establishment. It must be worked out in such a way as to be adapted to the particular type of business, to the conditions under which it operates, to the kind of line or lines in which it deals, to the type of salesmen which it employs—and, most important, to the particular functions which the firm desires of its salesmen.

METHODS OF COMPENSATING SALESMEN [1]

In speaking of compensation methods, one having in mind the present situation said: "The methods formerly employed have not been suited to these new conditions." All will admit that new conditions are continually met in business and this non-debatable fact is probably the reason why a set compensation plan never fits for long and is a subject for constant readjustment. In our opinion it will be a continuous subject for readjustment. Conditions on which to base compensation do not remain the same.

The ability of the man, the nature of the job to be performed, the value of the accomplished task to the employer, the individual standard of living, and the right to save and accumulate, are among the factors that should determine the amount and form of compensation.

Since this is a report on methods of compensation for salesmen, a common agreement as to terms seems desirable.

Analyzing the use, our understanding as to the meaning of the terms is here noted:

[1] By C. K. Woodbridge, Sales Manager, The Dictaphone, New York. Abstract of a report presented to the Cleveland, Ohio, meeting of the Taylor Society, May 9, 1921. Bulletin. Taylor Society. August, 1921.

Compensation: Making terms suitable to or for—a counter-balance;

Salary: A predetermined periodical allowance made as compensation to a person for services;

Commission: A compensation accruing to an agent or factor indeterminate in amount; usually a precentage of the value handled by the factor;

Bonus: An extra allowance; that which is offered or won as an honor and reward for superiority or success, as in a contest;

Task: A specific amount of labor required or undertaken.

Compensation Plans in Use

From a study of the subject as presented in Printers Ink of April 7, The Dartnell Corporation Report No. 17, Practical Plans for Compensating Salesmen; forty questionnaires from national sales organizations, and a bit of experience, a few of the known variety of compensation plans now in use are here given. Only a brief reference will be made to some, since the nature of these plans is in most cases of common knowledge and since the sources of information for the most part are accessible to all. We find the following:

1. *Straight Commission.*

2. *Sliding Commission*: A commission the rate of which automatically increases as predetermined sales goals are reached.

3. *Group Commission Plan*: Merchandise divided into groups, each paying a different commission.

Commission plans are extensively used. It is the opinion of many that they place the sales expense and risk on the other fellow. In practice they develop a tendency to oversell. Cold canvas for prospects is neglected. The relationship of salesman and house is not close. Too much money is made in boom times, too little in hard times.

4. *The Straight Salary*: This plan is probably used by 50 per cent of all concerns. The man with the fixed income, having faith in his house and a quality product, works as a partner in the business and increases goodwill for his firm. It lacks, in the minds of a great many, proper incentives for better than ordinary performance.

5. *Salary and Commission*: This is a combination of the two most widely used compensation plans. It is favored in times when selling is difficult, as at the present moment. By it a salesman is supposed to profit through his industry.

6. *Salary, Expense and Commission*: In this salary and expense are deducted from commission earned on sales, and if there is an excess it is paid to the salesman.

7. *Salary and Commission on Sales* over a fixed quota or task (sometimes called salary and bonus): Making quota is an exciting game and if the rules are fair and the quota not unreasonable, it is entered into with great enthusiasm by salesmen.

8. *Salary, Commission and Bonus*: This combination introduces the bonus in recognition of excellent or superior service. The introduction of an extra allowance for excellent or superior service has created many forms of bonuses. These include:

a. *Bonus on special features*: An amount paid for special accomplishments, such as selling package goods more than bulk goods, or any accomplishment of special profit.

b. *Bonus on net profits*. A percentage on different classes of sales according to profits; for instance a certain per cent on strictly city business, a little more on suburban, and the maximum on country business.

c. *Bonus on total sales*: This encourages volume building, sometimes at the expense of profit.

d. *Bonus on quota excess*: A quota or task is assigned to each man which represents what he ought to sell normally, and then a bonus is paid for all sales in excess.

e. *Bonus on low sales costs*: A reasonable cost of selling is established, and a bonus paid to salesmen if his cost is less.

f. *Bonus on service to house*: Paid on estimate of constructive value of salesmen's work.

g. *Bonus on increased efficiency*: To correct weaknesses and develop sales ability.

h. *Bonus on promotional work*: Paid for dressing windows, opening up new dealers, selling "hard nuts," etc.

i. *Bonus on branch office sales*: Bonus paid to branch on total sales over quota, and prorated among salesmen. This promotes cooperative work.

9. *Task and Bonus Systems*: Since the salesman spends a greater portion of his time before the sale in preparation and after the sale in follow up, than he does in the actual sale, this plan of paying for the tasks performed and giving bonuses as incentives for excellent performance is of great present-day interest. Salary and expenses must be provided for.

The Dictaphone sales organization is paid a salary for specific tasks to be performed under direction, such as:

a. Daily calls on owners.

b. New prospects and follow ups.

c. Demonstrations and the supervision of installations according to unit sales as a bonus.

Another concern in our industry pays for tasks as follows:

Each canvassing call	$ .10
Each solicitation call	.05
Each demonstration call	.25

A Drawing account is allowed. These task payments help reduce the amount drawn. A commission is paid in addition on the sales of equipment. This latter is considered a bonus.

10. *The Point System*: Quoting a fellow sales manager: "We measure the value of a salesman's time by the volume of goods sold during a certain period or at a certain percentage of cost. Of course, the final objective and purpose of the field organized is to sell goods, but much of the work of selling goods is accomplished by doing other things than writing up actual orders. The field sales organization has other duties to perform which are as important to the sales work as taking orders for goods. In fact, much of this work is at times more important than the actual booking of volume. To properly measure the results or value of a salesman's work, it is necessary that we fix a value on each of the duties to be performed and credit that salesman when he has performed those duties."

The point system involves the use of a common denominator. The sale of the product requiring the least resistance is usually that denominator. A point is given for every dollar of that one product sold, and upon that standard all other values are determined.

Penalties are fixed for not doing the things the company wants done.

The value of a point having been determined, the salesman's salary, figured in points, will indicate what he had to do in tasks to justify his pay. If $.004 is the value of a point, 5,000 points would be necessary to get $20.00 a week. The following factors are used in giving points:

1. Credit for Selling Desirable Product

Basis of reward one point per dollar sale.

	Credit Points	Debit Points
(a) Easy selling advertised product	1	
(b) Products offering double net profit	2	
(c) Products offering triple net profit	3	
(d) Products especially hard to sell	2	
(e) Products that have very high repeat qualities	2	
(f) Products that are being closed out	2	

2. Credit for Securing Particularly Desirable Business

(a) New customer who discounts bills	200	
(b) New customer who pays within thirty days	150	
(c) New customer who takes sixty days or over	100	
Half credit when order is received by mail.		
One-quarter credit when order is closed by office.		
Penalty for loss of customer—"six months without buying"		150

3. Credit for Cooperating with Credit Department

(a) Information which results in saving account	100	
(b) Local investigation of new account	50	
(c) Valuable information regarding old account	50	
Penalty for bad debt through failure to report		100
Penalty for bad debt not due to salesmen		50

4. Credit for Cooperating with Advertising Department

(a) Report on dealer advertising activities	2	
(b) Getting dealer to use store advertising matter	10	
(c) Getting dealer to use dealer electrotype	10	
(d) Securing mailing list from dealer	10	

5. Credit for Cooperating with Sales Department

(a) For every report turned in	1	
(b) For calls made without sales	2	
(c) Information of interest to other departments	1	

6. Penalties and Rewards for Quality of Salesmanship

(a) Misrepresenting facts		1000
(b) Complaints from customers		500
(c) Goods returned "in addition to credit"		100
(d) Falling off in sales over last year		100

One large national concern in describing the point system says:

We need a measuring stick by means of which we can measure all territories and all men alike under varying conditions in varying territories, and still show the good salesman in proper comparison, whether he is in good or bad territory.

We take the three largest considerations in the salesman's work, viz., calls, order and volume, and after determining the approximate number of calls, orders and volume in units of retail sales, which we except to accomplish during the year, we fix on each of them a value of points to be credited to the salesman accomplishing one of the tasks.

This valuation will be as follows:

For each call	5 points
For each retail order taken	15 "
For each unit sold retailers	1 point

Therefore for each call a salesman makes he will be credited with 5 points, for each retail order taken regardless of size he will receive credit for 15 points; and in addition, he will receive 1 point for each unit of sales.

We find by actual comparison with the range of calls, orders and units of sale, based upon the average experience in all territories over several years, that this valuation keeps the day's work balanced up about in accordance with the importance of the work done.

In territories where a large number of calls per day is possible the orders run small; in sparse territory, where few calls per day are possible, the orders run larger.

A man, working for distribution among the small trade, should make a lot of calls and take a large number of orders, but the volume would be small. Another salesman in a country territory would be able to make only a small number of calls and take a few orders, but the country orders run larger and his volume would, therefore, average up his day's work.

The use of the point system has produced:

11. *The Rating Plan*: This plan aims to pay salesmen a bonus over and above the salary and commission on the basis that if a salesman can be made to overcome his weaknesses he will be a greater producer. Men are rated according to the quality of their work each month. The following gradings were used by one company.

Integrity (indicated by letters of complaint)

Aggressiveness (shown by new accounts opened, etc.)

Industry (shown by number of calls made, etc.)

Economy (indicated by expense account)

Salesmanship (determined by large profits sales)

For each month according to fixed standards for performance, a 100 per cent record might be worth $50; accomplishment up to 100 per cent would be paid for accordingly.

12. *Sales and Service Quota Plan*: This consists of:

a. A sales quota and a service quota. This plan establishes a quota based upon previous year's sales. Other methods are known for establishing quotas. The service quota is the number of tasks that should be performed in relation to total calls.

b. A point system by which actual sales and service are translated into credit points.

c. A method by which the credit points (the work done) are translated into earnings.

d. Salary and expense allowance must be arrived at, based on average amount paid for some period.

e. A plan for paying to the salesman the difference between his total credit points (actual sales and service performed) and the total debit points (money in salary and expense allowance advanced).

13. *Salary and Percentage of Saving Plan.* A sales manager in the west has developed this plan after many trials: The company sets a certain percentage figure to cover the expense for each salesman's territory, and by increasing his sales or reducing his expenses the salesman can effect extra earnings. Each salesman is given a sales quota for his territory. Each one similarly is given an expense budget based on analysis of the cost covering this territory in the past and modified to meet present costs.

If the salesman's quota is $200,000 per year, and his salary plus expense budget is $6,000 per year, his

given expense rate will be 3 per cent. Now, if he increases his sales to $250,000, he will earn an extra 3 per cent on $50,000, or $1,500. If he keeps his sales at $200,000 and reduces his total expense to $5,000 he will earn an extra $1,000.

Out of about forty concerns of whose methods of compensation we have knowledge—through a questionnaire—twenty-five paid straight salary, salary and commission or salary and bonus; nineteen paid straight commission, but thirteen of these allowed drawing accounts. Therefore it is evident that practically all consider that the salesman must have some regular income that he can depend upon, thus recognizing the importance of providing for living and expenses.

As between salary alone or with a commission or bonus, and drawing account against commissions, the practice is somewhat more in favor of the salary plan. The other soon hangs a millstone around the salesman's neck in the shape of a debt that kills his effort. Practically all those dealing in a straight commission plan offer prizes based on the introduction of contests in the sales program. About 75 per cent of all use prizes and many give prizes in special sales contests introduced for the purpose of creating the competition of play in the game of selling. Contests pay the individual contestant in the coin of accomplishment. The world loves a winner and the winner likes to be reminded of his success.

After all, it's team work that counts, and when you have the proper spirit and the proper attitude toward the organization, you can get great sales results from contests; and it's not the size of the reward that counts so much as it is that something which makes the man feel that winning indicates his standing among his fellows.

The statement is made about commission methods that salesmen sell their personality or else plan merchandising without a bit of service. The importance of service is perhaps the excuse for extra pay in the form of bonus—commission and tasks. After all, the use of bonus plans is to increase the producing power of the sales force.

Methods of compensation for salesmen require an analysis of the job to be done, and these jobs differ in different lines. Find out what the operations are and decide how much of the total sum you are willing to spend should be paid for each operation. Then take into consideration the individual, his cost of living, his expense, his ability and his right to save and accumulate. These factors should determine compensation.

It is evident that no one has yet discovered a common sales compensation plan that will fit all types of business. Granting that one plan may be adaptable to groups covering one class of business, like hardware, groceries, etc., that same plan may not fit all factors in each company's sales work, and we do not think the one plan should necessarily be common to all the individuals on the sales force.

PLAN FOR PROMOTING SALES WITH BONUSES[1]

How the Minneapolis General Electric Company Successfully Worked Out a Salary and Bonus System for Paying Salesmen

A few years ago the sales department of the Minneapolis General Electric Company, organized on the straight salary basis, was running along smoothly with an established force. Then one of the salesmen, who was getting $165 per month, suddenly left the company's employ. His action was responsible for the institution of a bonus system in the company's sales department.

[1] Electrical World. 70 : 355-6. August 25, 1917.

for it was decided to give his salary to the men already in the department in the shape of bonuses in the hope that this would stimulate sales.

In the beginning those who were working out the plan took the sales records of all the men in the department over a period of several years. From these records it was found that if an arbitrary value for points was assumed the average man's sales ranged between two thousand points and five thousand points per month. The assumed value, based on a value of forty points for securing a wiring contract in an old house already on the company's line, established a basis from which to figure. The number of points to be credited to a salesman for securing other kinds of business was figured in relation to house-wiring in such a manner that the salesman could not afford to go after business that would come in by itself and would be encouraged to go after business that carried a profit to the company. The same plan was used in arriving at values of points for various items in the commercial lighting business and in the small power business. The result of these calculations is given in the table herewith, which sets forth the number of points credited to each class of business.

NUMBER OF POINTS FOR BONUS SYSTEM

RESIDENCE BUSINESS

Class of Business:	Number of Points
A. Old house, reconnection contract	1
B. New house, new service on extension	2
C. New house, new service on line	5
D. Old house, new wiring on extension, Ratio ½	10
E. Old house, new wiring on extension, Ratio 1	20
F. Old house, new wiring on line	40

COMMERCIAL LIGHT

G. Old building, reconnection contract, per $100 revenue per year	4
H. New building, new service on extension, per $100 revenue per year	8
I. New building, new service on line, per $100 revenue per year	20

J. Old building, new wiring on extension, per $100 revenue per year	40
K. Additional on meter per $100 revenue per year:	
1. Expansion	20
2. Displacement	50
L. Old building, new wiring on line, per $100 revenue per year	100

COMMERCIAL POWER

H. New power on extension per $100 per year	8
I. New power on line per $100 per year	20
K. New power, additional:	
1. Expansion	20
2. Displacement	50
M. Change of name contract (any class of business).	5

With the point system established, it was then necessary to lay down the rules under which the bonus would be given to the salesman. It was decided that the amount of bonus which should be allotted to a salesman should be in direct proportion to the amount by which he reduced his own net sales expense for any certain month over the same month in the preceding year. For instance, a certain salesman had a record of two thousand points and his total sales expense was $100, then his sales expense per point would be 5 cents. Then, a year later, if he made a record of four thousand points and his sales expense remained at $100, the cost of his business per point would be 2.5 cents. He would then have reduced his cost of doing business by the amount of 2.5 cents per point, and his bonus would be 2.5 cents times four thousand, the total number of points, or $100. The salesman's total sales expense in each instance was taken as meaning his salary plus his expenses. Expenses were interpreted as being all expense items except such things as civic and commercial club dues and such other items as the company wishes to pay to help promote civic spirit. The equity of the plan was at once apparent to the salesmen, who were in reality given the amount they saved the company.

The plan also works the other way, however, in

that a salesman can lose money. He always gets his salary, but if he shows a loss in points which entitles him to a loss of his bonus he must make up the loss in bonus before he can be credited with a cash bonus. Furthermore, a salesman must increase his volume of business before he can be credited with a cash bonus.

Suppose, for example, that in April, of one year, a salesman had a record of fifteen hundred points at a cost of 5 cents per point, and then in April a year later, he again made a record of fifteen hundred points, but reduced his sales expense to 4 cents a point. This would apparently entitle him to a bonus of $15, but a bonus gained in this manner is good only to apply against a bonus deficit and cannot be collected as a cash bonus.

An important feature of the plan is the reserve fund which has been worked out in connection with the system. Before a salesman can get any bonus he must have a credit of $25 in the reserve fund. After that he can collect every month a bonus amounting to $10 plus 50 per cent of the balance which he may earn. The primary purpose of the reserve is to provide ample credit to absorb any deficit which a salesman may contract in an off month. The secondary reason for the reserve is that it provides an accumulation toward the purchase of an automobile. The salesmen are heartily in favor of this plan, because each of them wants a car. To buy the machine it is not necessary for a salesman to wait until his reserve reaches the amount of the purchase price, $382, for the company will buy the car after the salesman's reserve has reached a reasonable amount and will then assist him in paying for it by deducting $10 from his salary and $10 from the bonus which he earns each month.

It is the experience of the Minneapolis company that the last named feature of this plan, which helps the salesmen get cars of their own, is a highly desirable

one. It has been found that the salesman with a car cannot only make more money for himself, but can be of greater service to the company.

BONUS PLAN FOR SALESMEN

La Salle Extension University, Chicago

Most of the salesmanagers of the La Salle Extension University are on a salary-plus-bonus basis. The field representatives, however, are covered by a special adaptation of this method called a "point system."

According to the University, this plan is as follows:

Most of our enrollments are paid for by the student on an extended payment plan. A certain amount is paid upon signing the enrollment and the member agrees to pay a definite sum each month thereafter. It is to our advantage, and to the member's advantage, to have this down payment and the monthly payments as large as possible. We have found that the student who pays a substantial amount on signing his contract and a fairly large monthly payment has a greater interest in his course, does his work more regularly, and his chances of finishing and therefore obtaining the most benefit from the course, are greater than those of the student who has not sufficient investment involved to be seriously concerned. Automatically, too, the larger payments eliminate the less serious prospective students.

The registrar earns a certain share in these advantages. The registrar, therefore, who obtains enrollments stipulating large first payments and large monthly payments produces a quality business.

Furthermore, large first payments and large monthly payments reduce the collection expense and collection hazard and of course makes the money available sooner for the university

The "point" system is intended to pay registrars an additional bonus which is in direct proportion to the quality of business they write While the system varies slightly with each course, the general principles are the same. Following is a description of the "point" system as used in one of our courses:

How the Points Are Determined

10 points for every enrollment taken
1 point for every dollar collected with enrollment
1 point for every dollar on monthly payments

The number of points to be gained from each enrollment taken is thus largely within the registrar's control.

On each enrollment for cash in full with order the registrar is entitled to the full number of points represented by the full price of the enrollment. Thus a check in full with the order on a $150 course entitles the registrar to 150 points, plus 10 points for the order. As another example, on an enrollment where the terms were $40 with the order, and $10 a month until paid in full, the registrar would receive 10 points for the order, 40 points for the down payment, and 10 points for the monthly payment, or a total of 60 points.

An accurate record is kept of their points and each month the registrar is credited with 5 cents for each point earned during the month, in addition to his regular commission.

Our "point" system has been in effect since March, 1918, and it is an incentive to the registrar to write quality business. Practically all of our sales staff of four hundred men participate.

CHAPTER XVIII

COMPENSATION OF OFFICE WORKERS

OFFICE FUNDAMENTALS AND INCENTIVES TO INCREASED PRODUCTION [1]

What is the fundamental thing for which the office exists?

There can be but one answer. It is to produce the work which is required of it.

Quality, efficiency, accuracy—all are vital, but *production* is the first necessity. Without it the other factors cannot exist.

The text of this talk is production. Production is the base from which all else starts.

With this accepted as a fact, we may safely decide that the work of the office is based upon the following three factors. Their importance is in the order named: Production. Quality and Accuracy. Intelligence.

Let us analyze each factor:

Production: It is a definitely measurable factor. At times measurement is difficult and occasionally is not expedient. However, measurement is always possible. Production is the basis of existence for any organization. It is the fundamental for which wages are paid whether the pay plan be week wage, piece-rate or bonus.

Quality and Accuracy: Always necessary, frequently vital. This factor is at best but partially measurable. With most work production would be valueless without accuracy.

[1] By J. G. Allen, Curtis Publishing Company, Philadelphia, Pennsylvania. A talk delivered at the first national conference of the National Association of Office Managers, Dayton, Ohio. June 9, 1920.

Intelligence in Work: Of great value but not definitely measurable.

The first of these factors can be measured and recorded with exactness and in an absolutely fair manner. The other two must largely remain to the judgment and experience of the executive. The first exists as an equally important factor in all work. The relative importance of the others varies. With circular inclosing, the last two are almost negligible. With phonographic or stenographic work, accuracy and intelligence are so important that they fully equal the factor of production.

All work, then, is measurable and nearly all work possesses other factors which qualify more or less the importance of production.

This table is a guess, of course, but it serves to emphasize the point.

	Production Per cent	Accuracy Per cent	Intelligence Per cent
Circular inclosing.....	100	....	....
Phonographic transcription.	50	25	25
Bookkeeping.....	33⅓	33⅓	33⅓
Contract writing.....	50	5	45

So we face a condition in which the different factors have varying degrees of importance. But note this:

In all cases production is a factor—the others cannot exist without it—and remember in every case that it is measurable while the others must be left to judgment and perhaps unfortunately to hunches.

I am attempting to establish, the fact that a brief survey of office fundamentals demonstrates clearly the need for certain knowledge of production. It is the only measurable factor which we have.

Most of you will agree that it is desirable to know the production on 100 per cent production jobs such as circular inclosing, addressing and the like. I wish to urge that it is equally important where production is a

lesser per cent in the equation. Merit on one factor usually means merit elsewhere. Given a good producer you will usually find a good condition on the other factors. This measurement of production is often an index to the efficiency of the less tangible factors. There is another reason to point out. The purely production clerk is usually paid the minimum or the near-the-minimum wage. So is the "common labor" of the office force. As the importances of quality and intelligence rise, so rises the wage. Thus the high paid clerks are employed upon work not often measured. It is urged that such measurement be undertaken. No harm can possibly result and the knowledge of this factor is at least one tangible thing upon which the manager may act.

I do not wish to indicate that the importance of production should subordinate the other factors. I merely wish to emphasize that the executive can use his judgment to better advantage when he has a positive knowledge concerning the efficiency of one of the factors which goes to make up the job.

If you agree that production should be measured in the office, the next step is to determine how it can be accomplished. The mere measuring of production does not secure results. An analysis of production methods and intelligent use of production figures are the factors that secure economy in operation.

The large number of experiences both successful and otherwise, through which we have passed, has resulted in our adoption of a more or less fixed method of procedure. I will now describe this method since it has a close relationship to my subject.

In studying new work or revamping old work we approach all problems in the following manner, although obviously common sense and expediency dictate the actual course of progress.

A. Personnel.
   1. How many workers are there?
   2. What is the method of payment?
   3. Determine true costs, in detail and in total.
   4. What is length of service of each.
   5. When did each receive last increase?
   6. General impression.
   7. Is supervisor or foreman capable and sympathetic?

B. Work.
   1. Study character of work.
   2. What does each person do?
   3. Determine true cost in detail.
   4. Determine present production when possible.

C. Purpose and History.
   1. Study history of activity.
   2. Think over purpose. Is it genuine?

D. General plan for future.
   1. Can activity be discontinued?
   2. Can it be combined with other activities to common advantage or with reduced cost?
   3. In view of the purpose of activity, what general changes should be made considering existing activities and new activities?

We get all this information ourselves, directly from the cost records, observation of the workers, and common sense.

When the survey is reasonably complete, we write up an analytical report of the situation. This clarifies the matter, compels complete analysis, and brings out many points which otherwise would be overlooked. The importance of this written survey cannot be over emphasized. It is fundamental.

Once the aims of a department are determined, we are ready for the real constructive work. A second report is now written describing the proposed changes. In this the following rules govern:

Rules for Standardization

1. Take care to accomplish only essentials and to do this at the minimum cost.
2. Standardize method of work. Time studies may be necessary to determine best method.
3. Determine operations.
4. Determine operation units.
5. Provide means of securing and maintaining records of Time, Production, and Cost by Operation.

The construction of such a plan is no simple thing. It is the product of the skill, experience, and common sense of the analyst.

One need is common to all instructions in installing standard methods. That is proper and complete records of cost conditions before and after the installation. Without such records it is difficult to judge the success of plan, and almost impossible to accumulate those facts which later may be of much value in selling similar methods to hesitant managers.

In planning standard practice the end which we strive for varies with the purpose of the work; the method which we adopt varies with the character of the work; the kind of records necessary vary with conditions; the determination of operations is everywhere the same. It is the breaking up of the activity into component parts having constant factors of units measurable in time.

The determination of production units is usually very simple; for instance, in letter filing, it is "one letter" and in setting type "one-piece of type." At times it is necessary to have a point basis standard where there are two or three factors which are not constant and equal.

After the essentials of the work are decided upon, standard methods settled, operations and operation units determined, and a way of securing and maintaining the records worked out, a report is written and studied.

If the suggestions even in a modified form are adopted they are put into practice.

New Plan in Effect

1. Write definite working instructions for each individual concerned.
2. Give close personal supervision during installation.
3. Gradual perfecting of plan.
4. Scheduling.

The write-up of the plan and the drafting of working instructions and orders are two separate matters. The instructions must take the form of a brief, but complete, memo prepared for each individual affected by the change. Memos given to supervisors or managers are not sufficient. Instructions must be complete for the individual, but should usually describe only his or her activities. This should not cover ground outside the field of the individual except possibly to briefly describe the purposes of the work.

The installation must be personally supervised and matters involving questions of justice will have to be settled. After the plan goes into effect other slight changes may be found advisable. When the plan is in working order, a detailed description written up according to some set formula should be filed in a book or encyclopedia containing all office standard practice. The instruction sheets may be filed also, but they will not take the place of the description written in a connected form and dealing with the work in its natural and logical sequence.

It is perfectly obvious that a person who does twice as much work as another should receive more remuneration. It is also perfectly obvious that if there is some incentive, more people will be efficient. No plan aiming for efficiency is complete until the problem of incentive has been solved.

The Curtis plan of procedure is to establish by time study and study of records, a certain standard production for each operation which will be expected of each person working for a certain salary rate, a certain penalty for errors, and an incentive for good production. If the worker does not reach the standard set, no deduction is made from the salary, but if she exceeds it she is paid for all production above the standard at certain fixed rate.

Standard Procedure

1. Study past records.
2. Study "special time" and "idle time" particularly. (Constant pressure should be kept here and both should be cut to the minimum.)
3. Make time studies of workers.
4. Determine standard.
5. Determine incentive—bonus or prize offer.
6. Make offer, promote and follow up.

In preparing work of this kind the problem of how to handle errors, imperfect work and waste, is constantly presented. There are two solutions. Either make a charge against bonus for each mistake, or determine the volume for errors, establish a "standard" and offer bonus for reductions. The first method is much better. When standards are set and the bonus offer is decided upon, the question of waste must be carefully considered.

True cost is not merely the actual cost of the time spent in turning out a certain production; if there is waste it should include also the cost of handling and adjusting the proper proportion of mistakes and a carefull estimate of what those mistakes cost the house. The extra cost which will be added because of this factor will usually be a big one and it should now be possible to offer a very handsome opportunity for bonus earning. The offer should contain a heavy penalty for errors. This method has a double advantage. It brings

the seriousness of mistakes home to the worker very emphatically. It costs her real money if she is not careful.

After a brief period of operation it will be found that the workers are divided into two classes:

Those who exceed the standard.

Those who fall below the standard.

The bonus earners must be encouraged to reach a high percentage and to stay there, heavy bonus will be the permanent incentive, but pride can be used to good effect. The need for encouraging high average workers to maintain their position is obvious. If the offer is to be truly successful, however, it is of even greater importance that the non-bonus earner be raised to earning ability, for until she reaches the production required for her guaranteed salary rate, she is an unduly expensive individual. Peculiarly there seems to be a lack of comprehension of this need in many offices. Much pride is felt in the high producers but little attention is given the less successful workers. Pride and the bonus furnish but slight stimulus with such workers. The cure comes through some form of analysis of individual and close personal work.

When a person gets on the payroll, a chart record is started.

As soon as a clerk goes to work, she starts keeping a form which we have prepared for the purpose. This is given to her with her registration card the day she comes to work. She notes upon this form all information relative to time and production which we need. From this we determine weekly the clerk's efficiency and post her record card. The record card is carried just as long as this clerk stays with us. It gives us a record of where we stand with the individual. There is one card for each major operation which is worked upon. The chartists watch these cards as an index of the work. Is production coming up steadily? Does em-

ployee consistently earn her salary? Does she reach the standards and go above or stay below? Are there sudden peaks and valleys? Do lines shoot up and then drop? Obviously chartists must be clever, resourceful workers who are familiar with the work. We use young women and pay good salaries. We find in a matter like this that chartists do a great deal to eliminate clerical errors from creeping into the work of a department. If a girl makes a mistake, in most cases they show up here. Whenever the points mentioned are discovered, the cards go to a "standardizer" for attention except when the trouble is due to clerical errors. In such cases the chartist cures the situation, secures an error report and gives it to the proper supervisor. Obviously the charts are exceedingly valuable as a check upon statisticians' accuracy.

When a graph showing an unsatisfactory condition develops the manager must take action. He will, of course, know the aims and purposes, history, floor layouts, wage and economy sharing plans, and the many other conditions and changes surrounding the work which might affect production. The cards come to him by group, section or department, and he gives them his most careful scrutiny and study. The action to be taken will be founded upon the need of the case. Failure to show satisfactory progress or consistent low production is usually due to lack of training, lack of understanding of opportunity, or poor divisional publicity. If lack of training is the trouble, the case is taken up with divisional instructors and the difficulty is cleared up. If there is a lack of understanding the manager can often set things right by a personal chat. Where sudden peaks or valleys, or steady decreases in efficiency are noticed, the condition must be studied from another angle. Sometimes it is due to a change of condition or environment, bad health, poor supervision, or certain of many other possibilities. The cards must be studied not

only singly, but in total by person and in total by operation. One of their duties is the "steering" of training. We do not have a central training school. We used to seven or eight years ago, but it has been eliminated and we do not now think we can train people satisfactorily in central training schools. It may be possible, but it has not been the solution of the problem for us.

We find a means of measuring the amount of work a person does. Knowing how much work the individual does and knowing by experience and a great deal of past history and by some time study, how much we can reasonably expect from our people for a certain salary, we make up our minds as to what they should do in order to earn their salaries. Having done this, and knowing how much they do, we make up these charts. No one will disagree with me, I am sure, that we should expect the individual to earn his salary. If we find they are not doing so, we do not discharge them but try to find out why they are not earning their salaries. When that has been found out, we take the steps necessary to cure the trouble. Finding out what they ought to do, finding out what they do, carrying the statistical records which keep track of this, having our experts through these means bring that particular person up to his earning powers form the whole story of our way of working. Our job is to keep everybody above the standard. Of course, that does not mean that we are not glad to have people go above it and make more money, but we do not push the class that gets above that point. We expect them to reach the standard and to earn their salary. If they can do more, and want to make more money, why fine, go ahead. But they have got to get up to the standard to hold their job. It is our work to find out why the individual is not going above that line, and having found that out, to push her above. In addition to the individual graphs, we carry also charts of

operation performance. Notice particularly, please, the decrease in errors since standardization. The argument that the offering of incentives for increased production increases waste and errors is, of course, a well-known fallacy.

When an employee leaves the company the graph is filed with her record for employment. If she wants a job some day in the future the card is examined with her application blank, and if she shows a good record, she is hired, and if not, we treat the case as circumstances justify.

METHODS OF OFFICE PAYMENT[1]

How Often and by Whom

The two basic methods of remuneration are—first, payment according to number of hours spent, or the day-wage system; and second, payment for the amount of work done, or the piece-work system. Various combinations of these two fundamental methods are found in bonus and measured production plans of different kinds.

The day-wage or salary system is the method adopted by most concerns for the payment of clerical workers. Payments figured on an hourly or weekly basis are made weekly, semi-monthly, or monthly, according to the policy of the concern. Pay to clerical employees is distributed by a private payroll clerk, or by trusted clerical employees assigned to the payroll division temporarily. In some instances department managers receive the cash from the cashier for distribution in their individual departments. Payments to the general office help are usually made in currency, to executive and higher clerical employees, by check.

[1] From a report of the Bureau of Commercial and Industrial Affairs, Boston Chamber of Commerce. 1921.

Adjustments in Compensation

Every organization should have some well defined plan as a basis for making regular salary adjustments. The two fundamental plans on which wage adjustment systems are based are:

1. Adjustments at the psychological time, that is, whenever local conditions or individual effort seems to justify, or at the discretion of the immediate superior of the employee.

2. Adjustments at stated or predetermined periods when the interests, merits, and effort of every individual worker are taken into consideration, and when every worker is considered with regard to a salary adjustment.

Some concerns follow the first plan entirely, while others use some adaptation of the second, going over all rates of wages periodically; or placing all employees on a "scale" basis for two years, automatic increases being each six months during that period, and at the end of that time payroll revision occurring once a year based on individual work.

Both 1 and 2 have arguments in their favor, and likewise both have their disadvantages. After careful analysis, however, there seems to be a preponderance of argument in favor of the second plan; i.e.,

1. New employees are encouraged by looking forward to a time when an inventory will be taken of their work and they will be rewarded proportionately, while old employees know that the question will be considered at certain times and at that time they will be given consideration commensurate with their merits. It prompts all employees to take a self-inventory to determine why they did or did not get a salary increase.

2. It necessitates the adoption of a definite policy in the individual concern with regard to salaries and salary adjustments; forces the issue to the attention of the department managers for regular consideration at stated

periods, and regulates careful and general study of the salary question throughout the entire organization. It permits intelligent comparison of recommendations by the various departmental managers, as well as compels individual, relative or comparative consideration of all workers.

Recommendations should be made by the department heads and passed upon by the office manager. The office manager should make himself responsible for careful checking of the personnel in every clerical department, whether or not the department head sees fit to make such recommendation himself. The sphere of operative office manager, in this function is a broad one, and his judgment must be unbiased by personalities.

Measured Production Basis

The policy of paying clerical workers according to what they produce has been proved by several large concerns to be practical in many kinds of office work; but it has not yet become generally adopted, probably because of the difficulty in determining a standard production.

That this can be reached by time study and job analysis is the opinion of this committee and is proved by the following details taken from actual experience.

Payment by results, based on quality and quantity, is the ideal method of remuneration, because it stimulates the employee to give to his employer the best that is in him.

Measuring clerical production, just the same as measuring factory production requires an intensive study of all the factors entering into the job under ordinary conditions, the class of work to be done, its variety and volume, and the effort and motions necessary to accomplish it. This can all be found out by a process of time study, allowance being made for the usual interruptions and delays.

Piece-Rating and Bonus Systems

Translating production into money usually means a piece-rate or a bonus system, but most employees like to know ahead what is coming to them, and they would usually prefer salaries to any sort of piece-wages. Then again it is undesirable from the viewpoint of the payroll department to figure fluctuating wages for the office force. Perhaps even more important is the impossibility of complete standardization of every kind of work, and the resultant dissatisfaction if one class of clerical employees received a bonus, while others did not.

The remedy to all these objections would be payment figured on a base rate plus a production premium; plus just compensation for quality, versatility, and dependability; the rate once set being considered standard pay for each worker until his record showed that he was earning more.

This plan would take out of the pay envelope the variations of daily and weekly production, and at the same time it would furnish a complete incentive for more production charts kept of the efforts of each worker, would help each one to visualize his own development.

CHAPTER XIX

INCENTIVES FOR FOREMEN AND EXECUTIVES

HOW SHALL WE PAY THOSE WHO MANAGE?[1]

A Survey of Compensation Plans for Executives

"Upon what basis shall we pay those who manage?" This question has not received the consideration which its importance deserves. Much attention has been given to working out and installing special systems of compensation for the rank and file. But little thought has been given to proper methods of compensation for those who manage, supervise and direct,—upon whose good judgment, loyalty, interest and enthusiasm, the success of any business enterprise largely depends.

The most effective efforts can be secured from those holding the most important responsibilities, the "key men," only when there are present the proper incentives. The problem is, therefore, one of motive.

The Flat Salary

The most simple method of paying these men is the flat salary. This is also the prevailing method. But it has many weaknesses. It does not offer a strong incentive to all men alike. It does not "pull out" of most men the best there is in them. This is because the salary is definitely stipulated in amount, and does not vary in direct ratio with their own accomplishment—nor with the success of the business, as a whole.

[1] From Industrial Relations, Bloomfield's Labor Digest. 8 : 898, September 10, 1921.

Just as the flat hourly- or time-rate does not put the rank and file of workmen "on their toes" to do their best,—so the flat monthly or annual salary for executives likewise fails, for it offers no "stake" in the outcome of the business.

True, the executive may find an adequate incentive in his ambition for advancement and promotion, in salary, and in rank. But he may soon reach the salary limit paid by the house, or the salary limit for the job. Or he may not receive salary advances if, and when, he expects them. Furthermore, the corporation may be unwilling to advance salaries beyond a fixed point, because it increases the fixed charges.

Methods of Compensation

It is evident that ordinarily the best results can be secured from executive employees by supplementing the flat salary, with some additional payment, the amount of which shall be dependent, either upon the success of the business as a whole, or upon the success of the individual employee.

There are various plans for so doing, as follows:

1. A supplementary payment, based upon the *measurable results* and achievements of the *individual himself*, in the accomplishment of some one function.

For example, the sales manager, who is responsible for one function only (i.e., sales), may well be paid a bonus based upon aggregate sales, or increase in sales. Or the credit manager, who is responsible for one function only, may be paid a bonus, based upon a reduction in the credit losses. Or, the production manager may be paid a bonus, based upon increase in output, or reduction in costs, per unit of output. All these plans are in operation. When the work done by the individual is capable of definite and precise measurement, and when the factor of "team work" and cooperation with others is not important, this is no doubt an effective arrangement, and is to be recommended.

2. Frequently, the individual performs not only one, but numerous functions, but it is, nevertheless, possible to measure his results, in all these diverse functions.

Sometimes this can be done through the use of some single "yard stick," as, for example, when the manager of a branch chain store system is paid a percentage of the profits produced by the store in his charge.

Thus, the single "yard stick" of his store profits measures his effectiveness in all his diverse functions of selecting goods, hiring and supervising salespeople, local advertising, pushing sales, etc.

Also department managers in retail and department stores are frequently paid a percentage of the profits, not of the *entire* store, but simply of *their own department.* Thus, departmental profits measure their success in discharging all their manifold duties, etc., selecting goods, bargaining for discounts, hiring, supervising help, advertising, pushing sales, etc.

The Yard Stick

Again, the measurement of accomplishment in diverse functions may be achieved through the use of a bonus, which includes *several factors,* each factor being the *measure* of one function. For example, when a department store pays a manager a bonus based upon.

(a) The aggregate sales in this department.

(b) The average mark up obtained in sales in his department.

(c) The average rate of stock turnover obtained.

3. But, frequently, there are no such definite standards or "yard sticks" which can be applied to the duties of those in the managerial groups. For their duties may involve diverse and unstandardized functions, the meeting of new problems, adaptation to ever-changing conditions, the making of decisions, and the exercise of judgment. The higher the responsibility, the more difficult it is to find a "yard stick." Trying to measure the con-

tribution of each executive to the success of the business would, in some cases, be like trying to *"unscramble eggs."* The efforts of the various executives often become undistinguishably merged in a "joint product," namely, the success of the business *as a whole.*

Under these circumstances, the most effective plan is to provide the individual with some stake in the success of the business, as a whole.

Probably the two best methods are:

(a) A profit-sharing cash plan, confined to the upper groups.

(b) A stock distribution plan, whereby these individuals can acquire stock ownership in the corporation by which they are employed.

It is significant to note that when the *profit-sharing principle* is applied to managerial staffs, in manufacturing businesses, the participant generally shares in the *general* or *total* profits of the business, *as a whole.* Whereas, in retail, department and chain stores, he generally shares *exclusively* in the profits of his particular store, department, or unit.

There is a sound reason for this differentiation. The reason is that in department stores, branch stores, and merchandising establishments, it is possible to treat the various departments, branches, or stores, as separate profit producing units. But in manufacturing it is ordinarily *impossible* to treat the various departments thus. For they are engaged, not in selling, but in putting the raw material through the various stages of production.

Frequently, the bonus plans for managerial employees are in the form of a stock distribution. This may be stock issued for service. Or it may be stock sold to participants, upon specially advantageous terms, less than market price, on installment payments, etc. Ordinarly, common stock is most effective for such plans, since the dividend rate on such stock is not limited.

Those firms using stock plans for managers have found them very effective in developing a strong feeling of responsibility and a deep sense of partnership.

There is no *"one best"* plan for managerial employees. The plan must be worked out to fit the needs of the business, the type of men involved, the functions under their control, etc.—just as the glove fits the hand.

But, it is clear, that ordinarily executive employees will accomplish more, if there is held before them, in addition to a flat salary, the possibility of an additional payment, the amount of which is contingent upon their own success, or the success of the business as a whole.

BONUSES FOR SALARIED EMPLOYEES

Bonuses Should Be Based On Net Profits

Experience indicates that where payment of bonuses is contemplated, the basis on which such bonuses should rest is net profits. This is the point made by J. Pryse Goodwin who says,[1]

> A bonus plan based upon net profits has the advantage of affording all employees of all departments an opportunity of sharing in the results of their own efforts and gives then a new, a different interest in the business. Their viewpoint is changed from that of an employee to that of a part proprietor and as quasi-partners it becomes immediately to their interest not only to help their employer but also to help one another not only to sell more goods but also to curtail expenses. Department jealousies give place to department rivalry, and as all employees participate in the net profits of all departments, they have the desire to help employees of departments other than their own.
>
> This healthy atmosphere not only affects heads of departments but permeates the mentality of the rank and file, stimulating them to do more and better all day and every day, whereas the supervision and stimulus of the managers is intermittent and the force of their efforts is directed from without rather than from within.
>
> Under a bonus system based on net profits, office boys become interested in conserving supplies; telephone operators take pride in reducing charges for employees' personal calls; stenographers pay closer attention to busy executives, enabling them to accom-

[1] Journal of Accountancy. 26 : 333-5. November, 1918.

plish more in limited hours; shipping clerks avoid mistakes, so costly in express charges and delayed collection of accounts; executives see that department managers, whose inefficiency affects their bonus, mend their ways or are exposed; and all employees become caretakers and watchmen of time and material so essential in this period of conservation.

When applying a bonus plan based on net profits, the following principles are suggested.

1. That all salaried employees, both inside and out, participate, except employees whose salaries are already augmented by commissions.

2. That the bonus be distributed monthly by way of a percentage based on salaries of the preceding month.

3. That the amount to be distributed by way of bonus be ascertained by a percentage (which shall be kept confidential) of the net profits of the third preceding month.

Referring to these principles in order:

1. All salaried employees should participate for the reason that the increased cost of living is felt by every one according to his obligations, and the increased duties caused by a reduction in the force should through good administration be borne by the entire remaining staff. In reciprocity the employer must of necessity express his sympathy and appreciation to every one. Salesmen on commission should be eliminated because, speaking generally, they receive the benefit of commissions on gross sales inflated by increased prices, and any reduction in their force usually results in increased business for the remaining members of the staff.

2. By making the bonus distribution monthly its influence as a stimulant to efficiency will be kept alive in the mind of the dullest employee. By making the distribution by way of a common percentage on salaries, jealousies which tend to nullify the effect of the bonus are eliminated. Salary rather than bonus should determine the relative value of the services of each em-

ployee, and a common percentage stimulates effort for a common cause.

3. Bonuses based on profits become payable only when those profits are converted into cash. Three months should be ample time for the conversion. Bonuses usually result in increased profits, and employees who have helped earn those profits will, in the face of alluring offers, be induced to remain with the corporation in order to participate in the results of their own efforts.

The following examples of extra compensation plans for executives are typical of what concerns are doing to provide special incentives for salaried employees.

Studebaker Corporation, South Bend, Indiana

In 1914 the Studebaker Corporation inaugurated a bonus plan for executives, which, with slight modifications, has been continued in operation up to the present time. The substance of the plan follows:

From the net profits of the corporation, as shown by the annual audit, there is first deducted a sum sufficient to cover dividend requirements on outstanding preferred stock, and the equivalent of 7 per cent on issued common stock. From the remainder, and before any deduction for Federal taxes, a percentage is taken starting at 5 per cent of the first million dollars, and increasing by 1 per cent for each million until 10 per cent is reached, and thereafter 10 per cent of each succeeding million.

Participation in this fund is confined to officers, executives, managers and principal employees, including superintendents, foremen, assistant managers of departments and heads of bureaus, who supervise the work of others and carry and discharge important duties.

At the end of the year participants are classified into eight groups, the first consisting of senior executives such as vice-presidents, treasurer, sales manager, etc., through the range of responsible employees to depart-

mental foremen, heads of bureaus, etc. Classification is made without regard to salary and wholly on the position occupied by a participant, the responsibility carried by him, and the degree to which such position permits him to assist in the successful operation of the business, and therefore to influence the ultimate profits arising therefrom.

The fund is divided into eight parts, the share for each group being calculated with regard to the number and identity of participants and not in any direct progression. The allotment for each group is divided equally among the participants in that group.

Participants in the first four groups receive 50 per cent of their respective shares in cash. The remaining 50 per cent is invested in common stock of the corporation and, conditioned on their continuous service, is delivered to them—25 per cent after one year, 25 per cent after two years, and 50 per cent after three years. Shares of participants in the four remaining groups are paid to them in cash immediately after the computation of the fund.

This bonus plan has, in the opinion of the company, "served a definite purpose and has justified its existence and continuation. The tangible interest in the profits of the corporation which it gives to each participant encourages economical and efficient administration. Important employees consider bonus payments as part of their compensation, and for this reason are less susceptible to offers of slightly larger salaries made by rival organizations."

A separate bonus plan for branch managers is in effect. Under this plan each manager is paid a commission equal to a fixed percentage on his annual volume of business in excess to a predetermined standard. A standard ratio per cent of branch house expense to sales is likewise determined in a fair and equitable manner, and in case this ratio is exceeded, the annual commission

is reduced by the percentage of such excess expense ratio.

American Rolling Mill Company [1]

At the end of each fiscal year, the management renews its recommendation to the Board of Directors that a special compensation fund be created. If the Board of Directors is convinced that the management's plan for special compensation should be continued, authority is given through proper resolution of the board to set aside some certain percentage of net earnings, to be distributed as, in the judgment of the management, will be for the best interests of the company and its working organization.

The percentage of net earnings so authorized to be set aside, will vary from year to year as conditions warrant or necessitate, but "will be as liberal as the Board of Directors can be convinced is sound and in the best interests of the company, its stockholders and its employees."

The following regulations govern the distribution of the special compensation fund.

Eligibility

All employees, other than officers whose entire compensation is fixed by the Board of Directors, who are being paid a monthly salary on December 31, the end of the company's fiscal year, who have at that time been in the continuous service of the company for one year or more; that is, all those who are insured under the Armco group insurance plan, are eligible to participate.

At the end of the fiscal year a list is made up of all eligible Armco employees, and this list is separated into three groups. Classification of individuals is based on responsibility of position held and the extent to which

[1] This is the plan as revised on December 19, 1921 and presented to employees.

such position gives the individual opportunity to influence and direct policies, and to affect profits.

Group one includes all heads of divisions, their assistants and the heads of the principal departments. The members of this group are called special partners.

Group two includes some assistants and the heads of other departments.

Group three includes all other eligible salaried employees.

Each eligible employee in groups two and three is furnished with a blank certificate of participation at the end of each quarter. This certificate must be approved by the department head and the head of the division to which the individual belongs, through a personal interview, to entitle the individual to the full amount allotted under the plan.

Regulations Governing Distribution of Fund

Two-thirds of the special compensation fund is allotted to the "special partner group" and is apportioned to the individuals comprising that group by the management, as in their judgment seems fair and equitable.

The balance of the fund is allotted to groups two and three. Other factors being equal, participants in group two receive three times as much as participants in group three.

The distribution to participants in groups two and three is made in direct proportion to their monthly salaries as effective on December 31, plus 10 per cent for each full year of service up to and including ten years.

Since an employee is credited with an additional 10 per cent increase in his share of special compensation for each year's service, the manner of figuring the distribution to participants in group three is as follows:

The figures representing the December 31 salary will be increased by 10 per cent for each year's service of

each employee up to and including ten years—and this will give the factor for participation.

Group two is figured in the same way except that each participant's factor is multiplied by three.

The sum of all the participants' factors in groups two and three is divided into the total sum of money allotted to these groups and the result of this division multiplied by a participant's factor, gives the amount of money to which such participant is entitled.

The special compensation fund will be distributed as soon as possible, usually in May following the end of the fiscal year.

Not less than 50 per cent of the total amount apportioned to each individual in any one year will be paid in cash at the time of annual distribution; any proportion not so paid will be held in reserve for future cash distribution, over a period not to exceed three years.

Only those who were eligible to participate during the year in which a reserve fund was created will be eligible to share in the distribution of that particular fund.

Salaries

Salaries are regulated after giving due consideration to the character and responsibility of positions held, efficiency, general ability shown in discharge of duties assigned, loyalty to company interests, term of service, and as far as possible to salaries paid to persons holding comparable positions in competitive companies. These factors are considered independently of any plan for special compensation.

The Brown Hoisting Machinery Company, Cleveland, pays special bonuses to its executives when business is especially good. Brighton Mills, Passaic, N.J., pays executives commissions based on the earnings of the company. The Hercules Powder Company, Wilmington, Delaware, makes special awards of common stock

bonuses to executives, foremen and sub-bosses during prosperous times and when individuals show extraordinary merit and accomplishment. The Pittsburgh Valve, Foundry & Construction Company pays some of its foremen a bonus proportionate to departmental efficiency.

A SUCCESSFUL FOREMEN'S BONUS PLAN [1]

Bonuses are paid to production department foremen only, that is, foremen of such departments as the tool room, pattern shop, machine shop and other service departments are not included.

Regular foremen receive 10 per cent of all savings created in their departments and general foremen 2 per cent of the savings created by the foremen under them.

One-third cost of machinery, tools or equipment required to effect savings, full cost increased material, scrap and loss from defective work are to be deducted before computing net savings.

Savings on general supplies not to be included.

Savings in material will be considered only when originating in department claiming same.

No savings to be computed which result in additional operations or increased cost of further process.

All items for which plans are already completed to be exempted.

Savings to be computed on actual production for twelve months beginning at the time the reduced cost is effective. Settlements to be made as of January 1 and July 1.

Savings not to be credited unless the foreman affords hearty cooperation in putting them in force.

Machines, tools or other equipment required are to be arranged for in the regular manner through the tool department.

[1] The above outlines the plan used successfully by John Deere Plow Works since 1913.

The right is reserved to reject any or all proposed plans for savings and no obligation is assumed by the company to pay or continue same.

BONUS PLANS FOR FOREMEN [1]

Bethlehem Steel Corporation

An extract from the annual report of the corporation in 1916 gives the gist of their bonus system, which has been successfully used for a number of years.

The system of bonus payment varies in different departments according to character of service and the basis of compensation.

1. Bonus for workmen is usually based upon the amount the results of their work for the day exceed a fixed task.

2. Bonus of foremen and shop superintendents is usually based either upon savings effected in costs below established average, or upon profits made in their departments.

3. Salesmen's bonus is figured on actual profits on orders booked by that particular salesman.

4. General officers of corporation and subsidiary companies (whose fixed salaries are in normal amounts) and in the case of the heads of general departments, bonus payments are a percentage of net earnings (after deducting interest charges but not depreciation) of the companies in the operations of which such general officers or heads of general departments exercise control.

How Percentage of Net Earnings Paid Varies

In most cases, percentage is on sliding scale. The percentage increases as earnings increase. Thus, in lean

[1] From an unpublished report made by the Industrial Council, Rochester Chamber of Commerce and used here by permission. The following references were used in the preparation of this report. Railway Review. 60 : 468. March 31, 1917; Industrial Management. p. 296. April, 1919; American Machinist. 47 : 752. November 1, 1917; Factory. 20 : 1074. June, 1918; Iron Age. 97 : 366. February 10, 1916; Factory. p. 1875. June 15, 1920.

years the compensation is small, and in years of liberal profits, the compensation is liberal, in proportion to the degree of success attained.

1. The aggregate of individual minimum percentages of net earnings (including bonus payments) of the corporation, which are payable by way of bonus to general officers and to the heads of departments having general control of matters affecting the corporation as a whole, is 3.43 per cent. This aggregate percentage increases with earnings to a possible maximum of 8 per cent.

Advantages

1. A particular emphasis is placed on deduction of interest charges but not depreciation. This causes the executive to use considerable judgment in the use of permanent assets, so as to keep the fixed charges as economically low as possible.

2. The percentage of bonus increasing proportionately with the earnings not only gives proper reward but indicates that the company values extra effort much more than ordinary effort. This point is note-worthy because when bonus system rewards decline with increased effort, it gives the recipient of the reward, a feeling that the company wishes to reward him as cheaply as possible.

Disadvantages

The common criticism of this plan is that it is only applicable to a firm of the resources of the Bethlehem Steel Company, which can afford to spend an enormous amount for the keeping of records. This is a principle which must be applied to any system as the cost of keeping records ought not offset the gain and saving to the company.

Hydraulic Steel Company, Cleveland

The Hydraulic Steel Company, uses the following form, which they term their "profit-sharing system."

Amount of Profits Paid

The Board of Directors have determined that 10 per cent of the profits should be set aside for both the senior and junior pool.

How Distributed in General

Amount to be shared is divided in half, one-half going to the senior pool and the other half to the junior pool.

1. The senior pool is participated in by the senior organization, which consists of the heads of the various departments, or executives and their assistants.

2. The junior pool is participated in by the junior organization, which is made up of department heads (minor departments), foremen and unit- or gang-bosses, and responsible clerks.

All others are called "employees" and do not share in the profits. For example, the unit-boss participates, but those that work for him *do not*. However, they have the opportunity of working into the junior organization by promotion, and would share then. They are paid on premium and bonus rates.

Division of Senior Pool

The senior pool consists of an arbitrary number of shares and each member is given a number of shares in accordance with the importance of his position.

1. The corporation has two subsidiaries. The senior pool is further divided with those executives in the two subsidiaries in this manner:

a. One-half of senior pool is distributed to executives and executives' assistants in the Hydraulic Steel Company.

b. The other half is divided with the two subsidiaries in proportion to capital invested and amount allotted to each company is distributed on the same basis as the first half, namely, by shares apportioned by position.

Division of Junior Pool

The junior pool is based only upon the earnings of the company the man works for, and the rate of dividend is figured from the amount for distribution and the amount of salary earned. In other words, the junior pool is based on the salary a man receives, and the length of service. The men are entitled each year to a certificate equal to 10 per cent of their wages for that year.

For example: J. Jones employed since January 1912

1912..	$ 900....	10%	or certificate amounts..	$ 90.00
1913..	1000....	10%	or certificate amounts..	100.00
1914..	1100....	10%	or certificate amounts..	110.00
1915..	1200....	10%	or certificate amounts..	120.00
1916..	1300....	10%	or certificate amounts..	130.00
			Total amount of certificates	550.00
			Assume wages for 1917 were	1500.00
			Amount on which 1917 dividends will be based	$ 2050.00

Assume 20 per cent dividends declared for each member of junior pool, then J. J. receives 20 per cent of $2050 or $410 as his share.

Rules

The following rules are impressed on the men:

1. Ten per cent of the wages of preceding year of continuous service share in the dividend.
2. Whoever leaves the employ, thereby forfeits his certificate, and when rehired, rates the same as a new man.
3. The size of the pool depends on the men.
4. If there are no profits, there is no pool.
5. If times are bad, no junior member will be laid off. He is assured of employment. However, no leniency or favoritism is shown him and he holds his job only because he has made good.

Advantages

1. By dividing the total profit-sharing pool equally, the management does not favor employees by groups.
2. Further division into shares for the senior pool divides the profits proportionately with responsibilities. The division of the junior pool according to merit and length of service does away with any cause for jealousy to arise between members on the same plane of the organization.
3. Compound interest is placed on merit and length of service, due to the issuing of certificates. Thus, a new employee could not very well share more in profits than an old. When a new employee receives benefits that the old employee has worked for a number of years, the old employee feels subordinated and the plan loses its enthusiasm.
4. The plan does not lay too little stress on merit, and too much on length of service. This is a common error with most bonus plans making them more pension systems than efficiency rewards.
5. The point of assuring men continuous employment in times of industrial depression is a good one.

Disadvantages

1. As outlined, the plan does not go far enough into individual merit in sharing of profits on the part of executives. It seems that the position of the executive determines the number of shares he holds in the senior pool. The reward is therefore according, instead of being in proportion, to the amount of profit he created.

Square D Company, Detroit

Profit-Sharing Plan for Executives

Organized profit-sharing association with fictitious capital stock of $100,000 consisting of one thousand shares, par value of $100 each.

Company agreed to set aside out of its earnings a certain sum for dividends on this fictitious stock, equal to a certain percentage of the gross manufacturing profit of the company for the year.

1. Manufacturing profits were defined as the gross profits of the year from all sources before sales and advertising expense, general administrative expense and Federal taxes were deducted.

2. Manufacturing profits, upon which the dividend was based, included all gross profits which were directly affected by the capability, efficiency, and interest of the men selected to participate in the profit-sharing association.

How Distributed

The dividend rate per share was not set to bear a fixed relation to manufacturing profits. A task was set as an increase of manufacturing profits over the preceding year, so that at a given point, the maximum dividend would be reached with respect to increase in manufacturing profit. At this point the dividend per share is $7.85. The dividend varies rapidly upward from .50 per share to $7.85 and from thereon still increased but at a reduced rate.

1. Stock was allotted to the participants arbitrarily by a committee composed of the general manager and factory manager. No attempt was made to prorate it on the basis of salary but instead, it was distributed in the estimate of the committee according to the participants ability to increase profits, the scope of the opportunity that the company gave him in this direction, his willingness to cooperate with others, and the effect upon him personally that the incentive would have. In no case was salary taken as a criterion.

The date of dividend was set at forty-five days after the close of the fiscal year to allow ample time to compute the dividend earned.

Advantages

The one advantage of this plan is the diminished bonus allotted participants when manufacturing profits are low.

Disadvantages

1. The arbitrary method of allotting the shares has not only all the disadvantages of any decided arbitrarily, but also disregards the fact that with the changes in personnel and the organization, which every firm must go through in the course of time, it might be necessary to re-allot the number of shares in the fund from time to time.

2. It is hard to say whether it is best to reduce the increase in dividend past a certain set point. This is entirely opposite to the idea of the Bethlehem Steel Company. However, the human element in the plant might have more to say on this point than one might suppose from just reading the article as written.

3. The usual objections to the plan which pays all of the dividend over the period of the year at one time could be applied to this plan.

Wagner Electric Company, St. Louis

C. B. Lord, General Superintendent, Wagner Electric Manufacturing Company, has perfected the system of that company, as follows: The base of the premium is a stipulated amount for each per cent of profit that the business shows during any year. This amount was predetermined at the installation of the system. The bonus is paid monthly, savings and losses over a year being divided by twelve. First of all, their bonus is figured on department efficiency in a manner much different from the others set forth in this report, the efficiency being figured from all jobs in the department, on a basis of estimated cost, actual costs, gain or loss, net gain or loss, or per cent gain or loss on estimates.

The bonus is made up of these items, which are totaled.

A. 1. An average of five years' percentage of profit on total business is obtained. This factor takes care of years above and below normal by neutralizing their effects and making the bonus not too great in any one year, or too small in any lean year. The current year is added and one year dropped in figuring the average five years' percentage.

2. Half the difference between 100 per cent and the average divisional percentage of savings is taken. From this amount the average losses are subtracted.

3. Half the difference between 100 per cent and average divisional percentage of savings minus losses.

The author's reasons for calculating items Nos. 2 and 3 in the manner in which they are stated is not to penalize a man too severely for his losses. It can be seen that the average savings can offset slightly the greater number of average losses. This also has the effect of preventing the percentage of savings from getting too high on estimates. It is a well-understood fact that when the estimates greatly exceed the cost of doing the work, business is driven away. This, the company wishes to do away with and to estimate all jobs as accurately as possible, and thereby enlarge the company's sales.

4. Percentage of monthly salary, expressed in dollars. This takes into consideration the foreman's importance.

5. Percentage of number of men under foreman's control. Departments with less than twenty-five men are not considered. This takes into account the foreman's responsibilities, as his salary is sometimes more dependent on his knowledge than on his responsibilities.

6. It is arbitrarily fixed by general superintendent and takes into consideration improvement in department, lack of accidents, promises kept as to deliveries, relation of amount of day-work to premium-work and general conduct of department.

B. Foremen of the tool room and departments of that nature, that work on day-rate only and serve other departments, receive the average of the departments served on those items in which they are concerned.

C. Interest and cooperation of the non-productive departments are secured by their receiving percentage of the average paid to productive departments.

Advantages

A. This plan is particularly adaptable to jobbing plants where there is more money lost in inaccurate estimates than in waste of material and labor in the shop. The principle of department efficiency might be applied to the savings on budgets properly estimated. The executive could be held to the performance of a definite task, and this task could be measured in dollars on his yearly budget. Any loss or saving in the yearly budget could be rewarded or penalized along the line of B and C.

B. This plan puts into practice, a point often discussed but little practiced. It is considered just as great an error to estimate too high as too low, as a great deal of wasted sales expense is incurred going after business that could be obtained with less effort if the work had been intelligently estimated.

C. Takes into account everything the executive is responsible for, and compensates him in accordance with the efficiency that he performs the task assigned.

D. 1 presents a novel way of standardizing the bonus and really making the bonus an addition to the salary that can be counted on by the efficient worker rather than a gift to be thrown in when times are good. It stabilizes the bonus over a number of years in the same manner that dividends are stabilized by the creation of a surplus.

E. The items related above have a tendency to balance the advantages of one another. For example, 5 prevents too much stress being placed on 4.

Disadvantages

A. This plan is a bit restricted in its practical application to many shops because it is too extensive and costly when placed in practice. A great deal of detail would probably be required. Furthermore, a bonus system which covers efficiency rewards as simply as possible has the advantage of being easily understood in the minds of those it affects; they carry these points in their thought and action throughout the business period instead of a short time before and after the bonus has been allotted.

B. 6 has the objection of permitting some authority to pass personal judgment on the distribution of the bonus. The bonus might best be considered in the nature of a contract and not alterable by the judgment of any one person or group of persons, once it has been installed, without considering all factors; and the effect it has on the sharers in the bonus and the company.

Intertype Corporation, Brooklyn, New York

The Intertype Corporation, a large machinery manufacturing concern, consisting of twenty departments and employing eight hundred people, has the following plan; the main feature of it is to have two controls—one lever in the hands of each foreman, and the other lever controlled by the foremen in a body.

How Standard Costs Were Obtained

Past cost records were gone over to determine just how much labor had been required in the production of each of the various types of machines.

1. Foremen were also asked to estimate labor required to produce the various types of machines, and these figures were checked with those obtained by method explained in preceding paragraph. They agreed closely.

Products Were Listed

Various classes of machinery were then listed, and the percentage of labor, on each class, of total labor

(based on producing an equal number of each type) of the entire shop was assigned. In other words, the various classes of products were weighted so that the standard of labor measurement of output could be set.

With such a standard determined, it matters not what classes are produced in any bonus period—which in this plant is made monthly—for to get the total allowance for labor (hereafter called labor points) in any period, all that is necessary is to multiply the output of each class by its labor value figure and then add the total of the products.

For example, let us assume for the month of August, the output of classes 1, 2, 3, 4, 5, and miscellaneous was 5, 15, 9, 5, 8, and 5 respectively, then the table of labor points would be as follows:

Type	Labor Value	August Output	Labor Points
Class 1	14	5	70
Class 2	16	15	240
Class 3	18	9	162
Class 4	20	5	100
Class 5	16	8	128
Miscellaneous	16	5	80
Total labor points			780

This, then, is the labor points standard table, based upon the best obtained figures of the labor required by each class of product. Some such plan as this was necessary to take care of the varying monthly production of the different classes.

It matters not now how variable the monthly production of the different classes may be, one can easily, with the standard labor value table, work out the allowed labor points for any given period. It is in this figure that all the foremen are interested. This is the group-controlled lever.

How Bonus Was Figured

A method of basing the bonus was figured as follows:

1. Multiply the output for each class by its labor

value (percentage of total labor mentioned in previous paragraph.) This product is called the number of labor points.

2. As the total output,—or in other words, labor points being entirely dependent upon the aggregate number of machines produced each month,—is directly tied up to each foreman's payroll in such a way that his personal profit depends directly upon the relation of his payroll to the total labor points, he is interested in aiding other department heads to obtain better work. Hence, we have a *collective control.*

3. However, the foreman's bonus is paid on the comparison of the labor points he makes, in his department, any month, with the standard number of labor points set. This is the *individual control.*

4. The standard numbers of labor points were set as follows:

a. The monthly payroll expenditures over a period of five months were placed in equal vertical columns with the weighted figures (labor values) for the various classes of output.

ACTUAL PAYROLL EXPENDITURES OVER A PERIOD OF FIVE MONTHS AND LABOR VALUES FOR THE VARIOUS CLASSES OF OUTPUT

Months	"Labor Points"	Payroll Expenditures				
		Dept. 1	Dept. 2	Dept. 3.	Dept. 4	Dept. 5
November ...	910	$4,080	$1,920	$2,600	$3,000	$1,200
October	1,000	4,200	2,050	2,780	3,200	1,400
September ..	800	3,800	1,870	2,350	2,800	1,170
August	780	3,900	1,900	2,500	2,600	1,080
July	830	3,750	1,850	2,550	2,760	1,000
Totals ..	4,320	$19,730	$9,590	$12,780	$14,360	$5,850
Average Five Mos.	864	3,946	1,918	2,556	2,872	1,170

b. The labor points were then increased 10 per cent and the payroll expenditures changed to nearest $100.

c. This gave one horizontal level of the standard table. Other levels were computed for labor points from eight hundred to eleven hundred in range of twenty-five points. Payroll expenditures corresponding to these other labor points were figured proportionately at the rate of $4 a point.

THE STANDARD TABLE, SHOWING A FOREMAN AT A GLANCE JUST HOW MUCH HE MUST REDUCE HIS PAYROLL OR INCREASE HIS OUTPUT TO EARN A PARTICULAR-SIZED BONUS

"Labor Points"	Monthly Payroll Expenditures				
	Dept. 1	Dept. 2	Dept. 3	Dept. 4	Dept. 5
800	$ 3,300	$ 1,300	$ 2,000	$ 2,300	$ 600
825	3,400	1,400	2,100	2,400	700
850	3,500	1,500	2,200	2,500	800
875	3,600	1,600	2,300	2,600	900
900	3,700	1,700	2,400	2,700	1,000
925	3,800	1,800	2,500	2,800	1,100
950	3,900	1,900	2,600	2,900	1,200
975	4,000	2,000	2,700	3,000	1,300
1,000	4,100	2,100	2,800	3,100	1,400
1,025	4,200	2,200	2,900	3,200	1,500
1,050	4,300	2,300	3,000	3,300	1,600
1,075	4,400	2,400	3,100	3,400	1,700
1,100	4,500	2,500	3,200	3,500	1,800

d. The foremen were told that if they could produce in any month a certain number of labor points for the payroll expenditure shown by the figures opposite obtained labor points—each foreman accomplishing such a result would receive 10 per cent of his monthly salary as part of his profits. For example, let us take a department whose standard labor points for the month are one thousand and twenty-five, and the payroll expenditures $4200. If the payroll expenditure for that month was $4200, the foreman would still obtain a 10 per cent bonus, as he has acquired the standard number of labor points.

If, however, his payroll amounted to $3800, he would receive 14 per cent or 1 per cent additional for each $100 decrease in expenses. On the other hand, if payroll

expenditure is $4500, then foreman's bonus would be only 7 per cent, 1 per cent being deducted for each $100 increase in expenses.

Advantages

1. Recognizes the effect that individual control on any one department has over the control of the entire shop. The two levers mentioned in this plan do not permit effort for individual gain to destroy effort whose purpose is cooperative gain.

2. The men effected by the bonus system were given a chance to check the standards, and discuss them before they were set,—when asked to estimate the labor requirements of the various products.

3. The entire system with its under-lying basic principle (weighted units with output) is easily applied to any plant with very little variation. The method of basing the bonus allows for flexibility. This system is simple in its application and easily understood by the men.

Disadvantages

1. A little more attention could be given to the saving in material and overhead. In a great many plants of different types, the direct labor is a criterion of the amount of overhead but rarely does the cost of material have any relation to the direct labor. Bearing this in mind, the system could possibly be extended a little further to include the saving in material and overhead.

Northway Motor & Manufacturing Company, Detroit

This company pays a bonus to all indirect labor employees, from assistant general manager down to, and including, the office help.

How Bonus Schedules Are Based

Bonus schedules for indirect labor employees are based on the direct labor of the plant and the payroll

of the department interested. A certain fixed allowance is made to the department interested for every $100 of direct labor in the plant. If they reach this allowance, a bonus is paid, based on an arbitrary amount. This arbitrary amount usually being the employee's wages. Example:

> The expense allowance of department is $5 for every $100 direct labor in the plant. If expense allowance is $5 for the period for every $100, employees of the department are paid a bonus of 20 per cent in addition to their salaries, this percentage of bonus being allowed under the bonus schedule for 100 per cent efficiency.

The Schedules Used

Many indirect labor employees, particularly those higher up, are allowed bonuses under several schedules. General foreman of a department is placed on four schedules.

1. One schedule, based on average efficiency of his department. Efficiency of men in department being (actual time). If average efficiency is 100 per cent, foreman (standard time) is based at 100 per cent on this schedule.

2. Defective work or scrap schedule. The rating of this schedule is so made as to penalize employee for the credits he received under the (a), ratings being about the same.

3. Schedule based on amount of indirect labor in his department.

4. Schedule based on expense of material in his department. The schedule is an allowance for each $100 of direct labor in his department.

5. Bonus paid the factory manager is based on the inventory balance, maintenance of equipment, defective workmanship, prepaid expense, labor cost of motors, material cost of motors, maintenance of buildings and grounds, water, heat, light, power and indirect labor.

The above article does not go into detail enough to show advantages or disadvantages, but has two out-

standing features. Schedules which vividly state what men are responsible for; and the basing of the bonus on these schedules, namely, varying degrees of bonus with varying degrees of efficiency.

A Bonus Plan for Executives

A profit-sharing system as outlined in 100% Efficiency Magazine, May, 1920 operates as follows:

The bonus is based upon the earnings of the company. The company is capitalized for over $2,000,000. All of the profits over 10 per cent on its capitalization are shared with the executives, based on the following plan: of the first $75,000 of profits over the stated 10 per cent, 15 per cent is prorated among the various executives based upon their salary earnings. Of the second $75,000, 20 per cent is prorated in a similar manner. Of the third, 27½ per cent; of the fourth, 37½ per cent and of all additional earnings, 50 per cent is prorated among the executives until they have received their maximum of 50 per cent or 100 per cent of their salary, according to their classification.

The executives are divided into two classes—class A and B. The class A executives include the president, production manager, secretary and treasurer, auditor, superintendent of body plant, superintendent of the main plant, purchasing agent, sales manager, and chief engineer. These executives can receive a bonus as high as 100 per cent of their present salary.

1. The class B includes the head bookkeeper, cost accountant, employment manager, traffic manager, head of the specification department and the two assistant sales managers. These executives can receive as a maximum 50 per cent of their yearly salary under this bonus system. As each man's share is based on his salary, his increment is in proportion to the value the company has assigned to his services.

This plan does not present anything new but is stated

to show another way of dividing the bonus fund. It might be called the usual way of distributing a profit-sharing system with the exception that the executives on the higher plane may receive 100 per cent of their salary while those in class B or junior executives, only 50 per cent.

Hart-Parr Company

The Hart-Parr Company has a bonus system, which they term—the continuity of service participation for supervisional employees—We take this to mean that the only ones eligible are the employees who are in a supervisional capacity, drawing weekly salaries and in the employ two years.

Ten per cent of the net turnover is set aside for the stockholders' surplus, to be utilized in paying back and current preferred stock dividends, and back and current sinking fund requirements, and additions to the surplus required in the charter of the company. Of the remaining, 25 per cent is divided among those eligible on the basis of their annual salary.

Those who have been employed two years participate on a percentage of 100 per cent, five to ten years participate one and one-half times as great or 150 per cent, and those from ten to fifteen years, thrice the normal participation, or 300 per cent. One exception to the general supervisional rule for eligibility is made for those employees on a day-rate, who have been in the employ fifteen years or over. They are allowed to participate only on a basis of normal participation of 100 per cent.

This plan is a pension system more than a bonus system. As a pension system it has some fine points and should be considered from that standpoint.

Summary

Judging from the plans stated herein, the following principles seem to underlie a good bonus system:

A. Schedules should be drawn up, stating definitely in advance what the executive is responsible for. These schedules should take into account all possible efficiency rewards which the executive is to receive at any time in the future, as far ahead as it is possible to estimate. These schedules should cover all matters of overhead, direct labor, and material.

B. The percentage of the saving to be given as bonus should be definitely decided at the installation of a system, and only subject to change after considerable thought has been spent on the effect it would have in destroying the spirit of the bonus, and indirectly the morale of the plant.

1. The percentage of profit or net earnings of company would be interpreted in the per cent of savings in the various schedules.

C. In order to have schedules show their proper significance and relation to reduction in production cost, this percentage of saving should vary with the different schedules in accordance with the importance of each item, and opportunity for saving, which one schedule will present more than the other.

D. A proper balance should be made between the number of schedules used and the object to be attained. This will incorporate the principle of the cost of keeping the records and details of the system so as not to offset the gain in the lowering of production cost due to the bonus. This point must not only be decided from the standpoint of a proper money balance but from the standpoint of having too much routine on the company's business. In order to reduce production cost and establish a bonus system, the details might require the use of many forms with a great deal of information, which will have the effect of not delaying routine information which would be passed between departments in the course of operation, but would tend to lead to inaccuracy and the lack of diligence in the use of the company's forms.

E. The standards upon which all savings and bonuses are to be based should be determined after the company has done all in their power to make the plant as efficient as they know how. After that point has been reached, it would be an understood fact that all suggestions and practices originating in the minds of executives and showing extra profits on the income statement, through budget saving or department efficiency, are to be paid for by the bonus plan.

F. All profit-sharing, according to authorities and the plans as stated herein should stop with the routine workers, that is, those below the rank of a supervisional capacity not participating.

G. Something should be done to reward length of service as well as merit without giving too much stress to length of service. A great many of the so-called welfare systems make it difficult for any but the very old employees to receive benefits of any account.

H. In an effort to stimulate department efficiency, the bonus should not destroy plant efficiency or cause disruption between departments for the sake of anyone. Paying the bonus from the net earnings of entire plant on a basis of department efficiency, might be sufficient incentive for executives to get together and plan to increase plant efficiency where it may and to help one another. This would depend on the type and temperament of executives affected.

I. The bonus to be paid, if possible, more than once a year in order to keep alive in the minds of those who participate what the bonus is really for. The plan of the Wagner Electric Company to distribute monthly-savings that were figured over a five year basis, seems to be a good one and also stabilizes the bonus. The plan might pay monthly on savings figured over a length of period of about a year.

J. The bonus ought not to smack of charity or welfare, no one receiving more than he has actually contributed in the way of obtaining savings. As little as

possible should be left to be decided arbitrarily by anyone, especially on the distribution of bonus.

K. Possibly, those effected by the bonus plan might have an opportunity to express their viewpoint on the operation and installation of the plan. This is not always feasible, on account of the varying degrees of personality that one finds in different plants. Nothing in the plan should be considered without first regard to the human element. The point of decision on any question might be based on the following question: What will its effect be on the plan as a whole, and what will its effect be on the individual?

SALARY DEDUCTIONS DUE TO ABSENCE AND SICKNESS[1]

Experience of One Hundred Firms in the Case of Executive and Semi-Executive Employees and Salesmen

The Problem

Should executives, semi-executives, and salesmen be subjected to deductions in their salaries, when they are absent from employment on account of sickness, accident, or physical incapacity?

In an effort to formulate an answer to this problem, careful investigation has been made, covering the practice of one hundred representative firms, in the middle west, in handling this matter.

The Prevailing Practice

The most universal practice is that no deductions are made for absences due to such causes. Over eighty of these firms state that no deductions are made. Most of them indicate that they reserve the right to make

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such deductions, and that they are under no contractual obligation to continue salaries during such absences. But as a matter of practice nearly all of them continue the payment of salaries.

Absences due to sickness or accident may be of two kinds. The illness or incapacity may be temporary in its nature. In such cases the assumption is that the employee will return to his employer, as soon as physically able to do so. Most of the firms take the position that in such cases, the salaries should be continued.

Typical Reasons for Making No Deductions

Some of the reasons stated for this position are as follows:

To be retained in the employ of any concern, it is our contention that a man must be worth more than his salary, and, in case of misfortune, I believe that the firm should go along with him for a reasonable length of time, for by so doing they keep intact their organization and certainly build up goodwill and closer relationship between employer and employee.

They are expected to fill the position and if absent for a period, the work usually is heavier on return or possibly carried by an associate, who in turn has help later. An executive or men retained on a permanent basis are entitled to full pay as they usually more than make up the time by over regular hours work anyway.

Because if employee has the proper moral and mental attitude toward the employer, he will be working for him twenty-four hours a day, when able and this should be recognized in case of incapacity. If he does not have this character of moral and mental attitude he would never be a salary man.

In the case of executives and semi-executives, I assume they are being paid for certain services, not for "time." Interruption in time does not imply that the service is not rendered.

Such deductions retard loyalty and goodwill in an organization.

We don't feel that it is time that we pay them for, but rather intelligence, interest and loyalty.

These men should be high-powered. They must be held responsible for results. They put in many hours for which they receive no compensation.

We believe this class of employees does considerable work outside of hours, and, therefore, we should stand back of them in times of need. This policy rewards us by eliminating the chance of frequent changes in our organization.

Such positions are usually held by people of high character and ability, working for the best interest of their concern while active, therefore should receive salary while absent.

We feel that an executive should give his employer all that is in him. His duties are thinking duties. He is frequently as much at work while at home, on the train, in church, or even in the hospital, as when he is at his desk.

I have always felt that we were money ahead in the end by making no deductions, primarily for the reason of the psychological effect on these employees and especially on the others who are associated with them. In other words, we are repaid by loyalty, renewed energy and effort because of this attitude.

When they are ill they need the money even more than when they are well, and, except in the case of factory hands, any employee can make a fair return by more concentrated or more enthusiastic work.

In practically all cases the work being done is divided among others and there is actually no additional salary. Unless the situation is taken advantage of by the unscrupulous, the business can stand the loss better than the individual, and the person will be more loyal.

Properly trained men in all these groups will have so arranged their work that it may be taken up by others at once. In the case of salesmen this is found more difficult, but there, I think, the continued salary payment promotes loyalty — hence greater efficiency.

Appreciative employees render better service, if accorded generous treatment will be less inclined to change positions, the occasional extra demands made upon them are more readily met.

Relation of Overtime to Salary Deductions

A goodly number of the companies investigated, take the position that no deductions should be made because executive and semi-executive employees are frequently called upon to work overtime, and that they receive no additional compensation for such additional service. The prevailing conception is, that one occupying a position of executive or managerial grade is employed to discharge a certain responsibility and not to serve a certain number of hours. While a reasonable working day is ordinarily assumed, it is also understood that the employees will put in additional time to the extent reasonably necessary to the proper discharge of his duty. If he does so, without extra compensation, it seems to follow that he should not forfeit his salary—because of enforced absences.

As indicative of this point of view, are quoted the following statements:

We do not believe in deductions because these people are not governed by any regular working hours and they perform overtime duties without additional compensation.

Executives and other employees working on a salary basis should not be subject to deductions, when incapacitated, because they are called upon to do many things out of the ordinary routine and must at all times be prepared to be at their desks without any regard for strict office hours, and do not receive any additional compensation for the extra hours which they must of necessity put in.

In the case of other employees working on a time- or piecework basis, they are paid an extra rate for any over-time, holiday or Sunday work. Therefore, when they are absent from any cause, deductions are in order.

This is not the case with the salaried employee and he should be paid his regular compensation even though incapacitated. Furthermore, his value to his company cannot be always marked in terms of dollars and cents.

Deductions should not be made because they are at all times subject to extra duties or hours as occasions demand.

These men work without regard to office hours—much valuable work—the best ideas—are the results of work at home, at the club, on the train, etc. Therefore, these men work and should be paid by the year.

We endeavor to surround ourselves with people who are interested in the business as a business, and expect them to do the work required of them, even if it takes more than the regular hours, and these people we expect to take care of when they are away from time to time.

There are some grades of semi-executive labor which *are actually paid overtime.* For example, in some plants foremen are paid overtime. When this practice obtains, it is usual for the firm to deduct from the foreman's salary for all absences, regardless of the cause. One firm states:

Our policy is to deduct for all absences, regardless of cause, for those classes of employees who receive overtime. Since our foremen receive a regular salary, plus overtime, we include them in this group.

The Practice Regarding Salesmen

The practice with regard to salesmen depends upon the method of compensation used by the house. When traveling salesmen are employed on a flat salary basis, most firms carry them at full salary, during enforced absences. The reasons for this practice seem to be largely the same as those which apply in the case of executive employees. It is generally felt that such practice promotes loyalty and mutual goodwill, which results in greater permanency and stability in the staff, and that it recognizes the fact that the salesman, as well as the executive, frequently works overtime.

One firm writes:

> A salesman on the road may work eight or ten hours a day selling, then put in five or six hours extra time in traveling from one town to the next, making an average of fifteen to sixteen hours a day when he is on the road of real work which more than makes up for any time that he has off for vacations, illness, etc.

However, some houses handle the situation by granting to every salesman employed on a salary basis, a certain vacation allowance. Absences may be applied against this vacation allowance, and if the absences exceed the vacation allowance, they may even be docked. For example, in describing its practice, one firm states.

> The salesmen are allowed two weeks' vacation each year, with full pay. A short loss of time—one or two days—from sickness, if not too frequent, is overlooked and full salary is paid in addition to the vacation allowance. If a full week is lost, the time may, at the option of the sales manager, be applied against vacation or docked, as he may decide. Here again, the character and general standing of the salesman is taken into account. If he is addicted to the habit of losing time, his pay is docked. Term of service and his general record is taken into account by the sales manager handling this item.

However, when salesmen are paid on a commission basis, the situation is quite different. Here, the income is automatically shut off, when incapacity begins. But few firms have any fixed arrangement for continuing payments to commission salesmen, during absences.

The view seems generally to be that commission salesmen control their own income, during health and prosperity. If they work overtime, they profit by it in the form of increased commissions. Therefore, there is no reason why they should not bear the burden of their own absences.

One firm reports that in the case of commission salesmen it has frequently paid hospital bills, doctor's bills, etc., and even sent a check regularly to the man's family. But such action is unusual.

Special Plans for Specially Meritorious Employees

Occasionally a firm uses a special plan regarding absences for specially meritorious employees. For example, one of the largest mail order firms of Chicago divides all employees into two groups: ledger payroll employees and envelope payroll employees. Ledger employees are paid by check, monthly or semi-monthly. Envelope employees are paid each week. Those on the ledger payroll are executive, semi-executive and a few employees, both male and female, of exceptional service, to whom it is desired to extend special recognition. These latter employees may be placed on the ledger payroll because of length of service, unusual loyalty and fidelity, or for any other special reason. All those on the ledger payroll receive no extra pay for overtime, but they are not docked for absences. Thus special service for the house is recognized by putting the employee in a "preferred class." This conveys to the employee so recognized the assurance that his income will continue, in spite of enforced absence.

Some Firms Deduct for Absences

There are some of the firms investigated which report that they make deductions for absences. But it is observable that most of them are small organizations. In other words, the large businesses seem to follow a more

generous and liberal policy in this regard than do the small ones. This, of course, is not surprising.

One firm reports that it makes deductions for all absences of more than one or two days' duration (except for officers of the company). The company justifies this policy by making the statement:

> The discipline this practice carries is obvious. The hours of men in this classification are abused more than in any other and should be controlled.

Another writes:

> If a salaried person has been in the firm's employ only a short time and makes a habit of being late and absent the deduction is made—from two days or longer.

Another describes its practice as follows:

> The policy of the house is to deduct for all absences. Department managers may recommend exemption for cause—such as considerable overtime, exceptional loyalty, years of service. Exceptions have also been made to accommodate house necessities. The entire salary is deduced except in special meritorious cases.

Salary Deductions Ordinarily Do Not Begin Immediately

However, the *immediate docking* of salaries, from the date of actual beginning of the absence, is very unusual. Even among those firms which make deductions, ordinarily a short period is allowed, before the deductions begin. This is upon the theory that a short absence may be permitted with full pay, but that the house should not be expected to carry the employee, if the absence is more than merely temporary in its character.

One firm which follows such a practice describes it thus:

> Salary deductions begin after two weeks at which time salaries are reduced one-half for one month. If incapacity still continues the services are entirely discontinued but generally with a promise of reemployment when individual is fully rehabilitated.

When asked its justification for this practice, the proprietor replied as follows:

> Because services cannot be rendered and it would be quite unreasonable for the firm to assume responsibility for factors beyond their control. I believe in reinstatement, however, when full recovery becomes a fact. Unless such a procedure were adopted even an executive might feel inclined at times to take advantage of a firm's policy.

Bernhart Brothers and Spindler have a well-established method of dealing with absences as follows:

Employees who have been with the company for one year are allowed one week for sickness with full pay. Those who have served two years or more are allowed one week full pay and one week at half pay. Those who have served five years or more are allowed two weeks absence at full pay and two weeks at half pay. This rule applies for each year of service. However, the president adds that the company does not "in all cases deduct according to the strict rule" but frequently goes further than compelled to do, by the terms of this rule.

A few firms were found which cut off the entire salary, when the absence exceeds two weeks, or one month.

Deductions in Case of Routine Labor

The almost universal practice with day and hour help, and with those paid on piece-rates—indeed for all in the rank and file—is to stop payment immediately when absences begin. The only exception is in the case of clerical help, saleswomen, photographers, etc., who—in most cases are permitted a few days' absence, for sickness—without deductions.

How Long Should an Employee Be Carried on the Payroll

For how long a period of time should a firm continue to carry an incapacitated executive or semi-executive on its payroll?

Generally speaking among those firms which make no deductions, the practice seems to be to carry the employee, with no salary deduction, so long as his incapa-

city is regarded as temporary, that is, so long as it is thought that there is a reasonable probability of his return to employment. In certain cases investigated, employees had been carried with full salary as long as eight months, twelve months, and twenty months. But practically all of the firms (which carry employees without deductions) state that they have no fixed rule regarding the maximum period for which an employee will be carried. Generally each case is decided upon its merits, with due regard to the employee's length of service, his previous record, his value to the house, and similar considerations.

Where it appears that the employee will probably not be able to return to work the case may properly be regarded as one calling for a pension rather than continuation upon the regular payroll. Some of the firms report that they have a definite pension plan applicable to such employees. Others report that while they are not committed to any definite pension plan, they have frequently pensioned employees who, after long or faithful service, become permanently incapacitated. A few indicate that they would feel compelled to cut off payments—as soon as it becomes evident that the incapacity is permanent.

Possibility of Abuse

Are employees likely to abuse their privilege, if the firm does not make deductions for all absences? That is, are they likely to pretend sickness, and resort to subterfuge, in order to absent themselves more than necessary?

Only two firms expressed any fear on this point. Most of them felt that employees in responsible positions would not take advantage of the firm's generous policy. One employer expressed the fear that executive employees would be more likely to return to their work before they were really physically able to do so. Another firm reports that there is no danger of misrepresentation, since it always sends its own nurse, or doctor out immediately to call on all employees (executive or otherwise to see whether there is anything the company can do for the employee. One company which has followed a generous policy states:

> We are inclined to feel, however, that it is inadvisable to be as liberal as we have been in the past, and we are considering the advisability of limiting the length of time for which we will pay employees in case of illness to some fixed period, which would, of course, be governed more or less by the length of time they have been with us.

Another objection to the policy of generosity may be that employees who have been carried for weeks—or possibly for months—at full salary, may leave the employ of the house, immediately upon recovery. What assurance has the firm that men who are treated liberally in this regard—will remain with them?

There is, of course, no legal obligation upon the employee to return to the service of the employer, nor to remain in his service. But fair treatment in time of adversity will go far to develop in the employee that feeling of appreciation and loyalty which in most cases will make him *prefer* to remain with such employer—provided conditions of employment, salary, etc., correspond to what he can secure elsewhere.

Conclusion

Generally speaking, the practice of American business houses seems to be generous and liberal toward executive employees regarding absences forced by incapacity. Most firms, apparently, carry such employees at full salary in case the absence is regarded as temporary. Also it seems that most businesses have not reduced their practice to iron-clad rules or system. In practically no cases does the firm assume a contractual obligation to carry the employee. Generally, the handling of the whole problem is left to the discretion and judgment of the management. But American business

leaders realize so keenly the value of holding intact their staffs, of developing a strong spirit of team work and loyalty and of maintaining a high degree of *esprit de corps* that they have been commendably generous in their handling of this problem.

INDEX

Abraham & Straus, II. 276, 282
Absence and sickness, salary deductions for, II. 392-402
Absences, how to reduce them, I. 287-297
Accident hazards, I. 12
Administration, problem of, I. 10
Allen, J. G., II. 347
American District Telegraph Co., II. 229
American Express Co., II. 177, 222
American La France Fire Engine Co., II. 164
American Multigraph Co., II. 155
American Steel & Wire Co., II. 37, 41
American Rolling Mill Co., II. 172, 177, 178, 191, 200, 369
American Sugar Refining Co., II. 155, 229
American Telephone & Telegraph Co., II. 138, 166, 168, 229
American Wholesale Corporation, II. 5, 6, 9, 72
American Woolen Co., II. 168
Atlas Powder Co., II. 171
Attendance, bonuses for steady, I. 278-97
Atlantic Terra Cotta Co., II. 30
Automobile service stations, bonus plan for, I. 174-81
Avery Company, I. 289
Ayres, L. S. & Co., II. 181, 187, 210

Baker Mfg. Co., II. 173
Ballard & Ballard, II. 61
Baltimore & Ohio Railroad, II. 222
Bamberger & Co., L., II. 290
Bankers Trust Co., N. Y., II. 230
Basic principles of incentive plans, I. 6
Basset, W. R., I. 11, 253
Bauman Clothing Corporation, II. 328
Belle City Malleable Iron Co., II. 182, 183, 199
Billing operators, II. 297, 300
Bethlehem Steel Co., II. 182, 190, 194, 373, 374
Blog, Leon, I. 80
Bohler, Jesse M., I. 174
Bon Marche, Seattle, II. 289
Bonus certificates, II. 114
Bonuses for sales, II. 341-6
Bonuses on stock purchases, II. 134
Bookkeepers, retail stores, II. 283
Boston Consolidated Gas Co., II. 61, 153, 173
Boston Store of Milwaukee, II. 288
Boston Woven Hose & Rubber Co., II. 168
Bourne-Fuller Co., II. 188, 216
Braender Rubber & Tire Co., I. 305
Brier Hill Steel Co., II. 169
Brighton Mills, I. 316; II. 371
Broadway Department Store, II. 280
Brooklyn Edison Co., II. 3, 81, 173
Brotherhood of Electric Rlwy Employees, II. 212
Brown Hoisting Machinery Co., I. 145; II. 371
Bulkley & Horton Co., I. 137
Burke & James, Inc., I. 146
Burritt Company, A. N., II. 109, 117
Butler Bros., II. 3
Buyers, retail stores, II. 297, 300

Calumet & Hecla Mining Co., II. 178, 182, 187, 192, 193, 207
Canada Cement Co., Ltd., II. 160
Capwell Co., H. C., II. 274
Carborundum Company, II. 185-6, 191, 192, 198
Carlton, Frank A., I. 5
Celluloid Company, II. 14
Chapman Valve Mfg. Co., II. 190, 208
Cheney Brothers, II. 194
Chicago Motor Bus Co., I. 221, 307
Chicago Trust Co., I. 323
Christman Dry Goods Co., II. 273
Cleaners, II. 297
Cleveland Chamber of Commerce, I. 6
Cleveland Hardware Co., II. 171
Cleveland Metal Products Co., I. 286
Cleveland Twist Drill Co., II. 83, 160
Cleveland Worsted Mills Co., II. 164
Collins, S. W. Mfg. Co., I. 282, 284, 287
Columbia Rope Co., I. 280
Columbus Railway Power & Light Co., II. 186, 204
Colvin, Fred H., I. 214
Commissions, II. 320
Commission plan, retail stores, II. 260
Commission systems, II. 272
Commonwealth Edison Co., II. 139, 160

Continuity bonuses, I. 115
Contract system, I. 19, 47, 74
Cooper & Co., C. & G., II. 167
Cost bonuses, I. 117
Cost of living bonuses, I. 114
Coventry Chain Co., I. 53
Craddock-Terry Co., II. 160, 188, 192, 194, 211
Crane Co., II. 165
Credit point bonus contest plan, I. 203
Credit system of wage payment, I. 307
Crompton & Knowles Loom Works, II. 19, 21, 35, 41, 42
Crossett Lumber Company, II. 18
Curtis Publishing Co., I. 285; II 347

Darter, W. A., I. 124
Davidson Bros. Co., II. 286
Dayton Company, II. 275
Day-work, I. 10, 32, 37, 44, 45-6, 102-7
De Camp, W. V., I. 169
De Frain Sand Co., I. 223
Delivery boys, II. 297
Deere & Co., II. 166
Deere Plow Works, John, II. 178, 187, 215, 372
Dennison Manufacturing Co., II. 146-53, 173, 321
Devlin Mfg. Co., Thomas, II. 158
Dewees, B. F., II. 273
Diemer, Hugo, I. 30, 32
Differential piece-rate, I. 27-8
Dittmer Gear & Manufacturing Corp., I. 203
Dix, Henry A., & Company, II. 145
Dodge Mfg. Co., II. 185
Drivers bonuses, II. 291-2
du Pont de Nemours Company, E. I., II. 139, 164, 172
Duff Manufacturing Co., I. 247
Dunbar Stone Co., I. 227
Dutchess Bleacheries, Inc., II. 105-9, 171

Eastern Manufacturing Co., II. 19
Eastman Kodak Co., II. 13, 19, 37, 160
Easton Furniture Co., I. 138, 261
Economy bonuses, I. 115, 231, 237-41, 253-77
Edison Company of Brooklyn, II. 3
Edmonds Shoe Co., II. 161
Efficiency dividend plan, II. 121
Elman Company, Samuel, II. 169
Electric light industry, bonuses in, I. 111-24
Electric Storage Battery Co., I. 244
Elevator operators, retail stores, II. 284
Elgin National Watch Co., II. 161
Ellison, William F., I. 146
Embry Box Company, I. 145
Emerson, Harrington, I. 149
Emerson efficiency bonus plan, I. 28-9, 32, 34, 35, 151
Emporium, The, II. 280
Equitable Life Assurance Society, II. 17
Espenhains store, II. 288
Estes, L. V., I. 191
Executives, incentives for, II. 296, 361-92
Excelsior Knitting Mills, I. 146

Fidelity Trust Co., Kansas City, II. 16
Fifty-fifty plan, II. 123
Filene's, Sons Co., Wm., II. 261-2, 264, 273, 282, 299
Findeisen & Kropf Mfg. Co., I. 291, 294
Firemen, bonuses for, I. 267-77
First & Old Detroit National Bank, II. 230
First National Bank, N. Y., II. 230
First National Bank, Chicago, II. 222, 230
Flint Vehicle Factories, II. 184, 190, 202
Floor superintendents, II. 299
Foremen, incentives for, II. 361-92
Forge shop, bonus system in, I. 165
Franklin, Benjamin A., I. 81, 87
Franklin Simon & Co., II. 289
Freight hauling, bonus for, I 228-9
Fuller & Smith, Inc., II. 133, 158

Gang piece-work, I. 87-93
Gantt, Henry L., I. 24, 34, 35, 61, 102, 230
General Electric Co., II. 166, 169, 194, 205, 317
General Motors Corporation, I. 130, 298; II. 3
General Storage & Cartage Co., I. 224
Gilchrist Company, II. 294
Godman Company, H. C., II. 13
Going, Charles B., I. 69, 104
Goodrich, B. F. & Co., II. 169
Goodwin, J. Pryse, II. 365
Goodyear Tire & Rubber Co., I. 291; II. 43, 138, 161
Gorham Manufacturing Co., II. 18
Gould, Harold P., I. 218
Grand Rapids Railway Co., II. 207
Great Northern Railway Co., II. 164
Group incentives, I. 14-16, 39, 44, 49, 117, 130-40; II. 286-8, 297
Guardian Savings & Trust Co., II. 230
Gulf Coast Lines, II. 155
Guaranty Trust Co., N. Y. II. 18, 75

Hager & Bro., II. 273, 287, 290
Hale Bros., II. 280, 283, 287
Halle Bros., II. 280, 295
Halsey premium plan, I. 22-3, 32, 34, 35, 54
Hardwick & Magee Co., II. 182, 183, 189, 195, 203
Harris Trust & Savings Bank, II. 5, 6
Hart-Parr Company, II. 389

Hartmann Trunk Co., II. 194, 205
Harvard Knitting Mills, II. 92, 104, 153
Heilman, Ralph E., II. 310, 321
Henderson-Hoyt Co., II. 279
Hengerer Company, William, II. 274
Hercules Powder Co., I. 317; II. 134, 157, 371
Hibbard, Spencer, Bartlett & Co., I. 321; II. 14, 19, 230
Hibernia Trust Co., New Orleans, II. 18, 167
Hilo Varnish Company, II. 132, 155
Holmes Co., D. H., II. 303
Holmes Electric Protective Co., II. 229
Hood Rubber Co., II. 3, 6, 10, 187, 216
Horne Company, Joseph, II. 262, 291
Houston & Texas Central Railroad, II. 220
Hudson Company, J. L., II. 273
Humphreys & Company, J. E., II. 322
Hydraulic Steel Company, II. 132, 156, 165, 374

Illinois Central Railroad, II. 158, 229
Imperial Oil Ltd., II. 170
Industrial partnership plans, II. 105, 147. See also Dennison Mfg. Co.
Insurance, group, II. 297
International Silver Co., I. 281, 316
Intertype Corporation, II. 382
Introduction, I. 1-2
Irving National Bank, I. 136

Jeffrey Manufacturing Co., II. 13
Jordan Marsh Co., II. 275, 280, 287
Joseph & Feiss Co., I. 138, 295; II. 14
Joske Bros. Company, II. 275, 282

Kann Sons Co., S., II. 274
Kaufmann's, II. 281
Kaynee Company, II. 18
Kent, H. O., I. 156
Killian Co., II. 280
Knopf & Sons, Inc., Joseph, II. 155
Korrick & Bros., Chas., II. 287

Labor view of pensions, II. 243
Lakewood Engineering Co., I. 144
Larkin Soap Company, II. 146
La Crosse Plow Co., II. 210
La Salle & Koch Co., II. 277
La Salle Extension University, II. 345
Lateness and absence, I. 278-97
Length of service, bonuses for, I. 298-325; II. 286
Lehigh Coal & Navigation Co., II. 170
Lehigh Valley R. R. Co., II. 156
Libby, McNeill & Libby, II. 162
Library Bureau, Inc., II. 14
Lichtner, William O., I. 25
Liggett & Co., Francis H., II. 322
Liggett & Myers Tobacco Co., II. 162
Lincoln Motor Co., II. 170
Lindner Co., The, II. 281
Live Stock National Bank, Omaha, II. 230
Lord & Taylor, II. 286
Los Angeles Gas and Elec. Corp., II. 159
Loss-sharing, II. 117
Louisville Railway Co., II. 184, 199
Lowenstein, M. & Sons, Inc., I. 304; II. 174
Lowney Co., Walter M., II. 192, 202
Lucas, J. H., I. 181

Macy Co., R. H., II. 279
Management, part of, in results, I. 6
Markers, retail stores, II. 301
Marr, Grocery Company, H. A., II. 63
Marston Company, II. 289
Massachusetts Gas Co., II. 62
Massey-Harris Company, II. 186, 198
Mayer Boot & Shoe Co., I. 277
Maxi-pay bonus plan. I. 214-18
McElwain Company, W. H., II. 139, 143-5, 162
Merchants Association, N. Y., II. 217
Merchants Shipbuilding Corp., I. 286
Merwin, R. I., I. 244
Metropolitan Life Insurance Co., I. 282; II. 3, 10
Michigan Bolt & Nut Works, II. 182, 195, 199
Michigan Drug Co., I. 228
Midvale Steel & Ordinance Co., II. 162, 234, 238
Miller & Paine, II. 289
Miller Lock Co., II. 14
Milwaukee Electric Railway & Light Co., I. 181, 265
Mining, bonus system applied to, I. 169-73
Minneapolis Bedding Co., II. 73
Minneapolis General Electric Co., II. 341
Minneapolis Street Railway Co., II. 211
Minimum Wage guaranteed plan, I. 59-60
Montgomery, Ward & Co., I. 156, 286; II. 288
Motion study, I. 14
Mutual Benefit Associations, II. 176-216, 302
Mueller Mfg. Co., H., II. 208

Namm & Son, A. I., II. 280, 282
National Blank Book Co., II. 3, 5, 189

National Carbon Co., II. 165
National Electric Light Association, I. 111
National Paper Co., I. 139
National Retail Dry Goods Association, II. 271
National Tube Co., I. 229
Nelson Manufacturing Co., N. O., II. 71
New England Power Co., II. 162
New Haven Gas Light Co., II. 175
New Jersey Zinc Co., II. 194, 200
New York Central Railroad Company. II. 132-3
New York Edison Co., II. 14
New York Telephone Co., II. 19
Niagara Falls Power Co., II. 163
Northway Motor & Mfg. Co., II. 386
Noyes Bros. & Cutler, Inc., II. 167
Nunn, Bush & Weldon Shoe Co., II. 5
Nystrom, A. J. & Co., I. 281

Office workers, incentives for, II. 347-60

Packers and shippers, bonus for, I. 228
Parke, Davis & Co., I. 229, 237
Patton-Anderson, Inc., II. 273
Payment by results, I. 53-9
Pelzer Manufacturing Co., II. 18
Pension plans, II. 217-44
Pension plans, list of concerns with, II. 244-50
Pensioned employees, II. 142
Penton Publishing Co., II. 165
Pennsylvania Railroad, II. 179, 181, 199
Perth Amboy Dry Dock Co., II. 188, 216
Piece-rates, I. 15, 20-3, 27, 30, 33, 75-81
Piece-work, I. 6, 7, 32, 37, 44, 48, 49, 61-101
Philadelphia Electric Co., II. 188, 193, 213
Philadelphia Rapid Transit Co., I. 264
Pilgrim Steam Laundry Co., II. 166, 188, 191, 203
Pillsbury Flour Mills Co., II. 204
Pittsburgh Coal Co., II. 156, 230
Pittsburgh, Butler and Harmony Consolidated Railway & Power Co., II. 145, 175
Plimpton Press, II. 4
Point plan for salesmen, II. 327
Point system, II. 336
Polakov, Walter N., I. 271
Pooled bonus, I. 239
Portland Railway, Light & Power Co., II. 179, 181, 182, 193, 200, 212
Premium system of payment, I. 56
Premium wage plan in Milwaukee shops, I. 181-91
Printing plants, task and bonus plans in Chicago, I. 149
Procter & Gamble Co., I. 281; II. 86, 132-4, 159
Production, bonuses for increased, I. 129-243
Profit-sharing, I. 114, 127, 226, 272, 298, 321; II. 58-127; salesmen, 324; and death benefits, II. 72; and length of service, II. 81-6; through stock ownership, II. 86

Quality and quantity of supervision, I. 7-10
Quantity, bonuses for, I. 116, 244-52
Queen City Machine Tool Co., I. 291, 295

Reilly, Philip J., II. 255
Remy Electric Co., II. 175
Retail stores, incentives in, II. 255-309
Richardson, O. W. & Co., I. 281
Robbins & Meyers Co., I. 291, 294
Rochester Chamber of Commerce, II. 373
Rochester Folding Box Co., II. 163
Rogers, Peet Company, II. 19
Rothschild Bros., II. 289
Rowan plan, I. 54
Roycrofters, II. 167
Russ Manufacturing Co., II. 165
Ryerson, J. T. & Son, I. 227

Salary deductions for absence and sickness, II. 392-402
Salaried employees, bonuses for, II. 365-72
San Antonio & Arkansas Pass Railroad, II. 229
Sanger Bros., II. 288
Salesmen, incentives, I. 114; II. 310-46
Schulte Retail Stores Corp., II. 170
Sears, Roebuck & Co., II. 4, 5
Seeman Brothers, II. 322
Serbell, C. V., I. 267
Service bonus, I. 237
Service bonuses as production incentive, I. 305
Service bonus plan, cost of a, I. 298
Seward, H. F., I. 93
Shadwell, Arthur, I. 66, 106
Shaw Company, A. W., II. 14
Shepard Stores, II. 279
Shoe factory, bonuses in a, I. 277
Simplex, Wire & Cable Co., II. 62
Smith, Alexander, & Sons, I. 316
Solvay Process Co., II. 37, 229
Southern California Edison Co., II. 159
Southern Pacific Railroad, II. 229
Southern Stamp & Stationery Co., II. 72
Speyer & Company, II. 230
Sprague Warner & Co., II. 322
Square D Company, II. 377

Standardization, I. 11; II. 112-13
Standard Kid Mfg Co., I. 129
Standard Oil Co. of New Jersey, II. 170, 229
Standard Parts Company, II. 132, 158
Standard time plan, I. 41-2, 44, 51
Stanley, Insulating Co., I. 130
Stearns, W. D., I. 45
Steel Equipment Corporation, I. 291
Stetson Company, John B., I. 284; II, 13, 14, 175
Stix, Baer & Fuller Dry Goods Co., II. 280
Stock of company as service bonus, I. 304
Stocks and bonuses, II. 130
Stock participation plans, II. 128-75; retail stores, 288-9
Strathmore Paper Co., II. 163
Strawbridge & Clothier Co., I. 284, 286; II. 13-15
Stromberg-Carlson Telephone Mfg. Co., II. 29
Studebaker Corporation, II. 156
Studebaker copartnership plan, II. 134-8, 153-4, 367
Sweeping, I. 96
Swift & Co., II. 163, 191, 195, 209, 229

Task and bonus plan, I. 24, 26, 29, 32, 34, 51
Task work plan, I. 40
Taylor, Frederick W., I. 22, 27, 28, 34, 35
Taylor Instrument Co., II. 12
Taylor Son & Co., Wm., II. 203
Teaching bonus, I. 138
Telling-Belle Vernon Co., II. 167
Thomas Devlin Mfg. Company, II. 132-3
Thrift plans, II. 3-57
Thrift, II. 302
Time premium plan, I. 191-203
Time-rate method, I. 20
Time schedules, I. 78
Time study, I. 9, 12, 52
Time-work with a bonus, I. 25
Title Guarantee & Trust Co., II. 73
Timken-Detroit Axle Co., I. 220
Traxler Co., Louis, II. 274
Trucking, I. 97
Truck drivers, bonus plans for, I. 218
Trumbull Steel Co., II. 157
Twin City Company, II. 181, 183, 186, 189, 195, 197
Typists, bonus for, I. 156

Union Pacific Railroad, II. 229
Union Savings Bank & Trust Co., II. 230
United Chemical & Organic Products Co., I. 282
U. S. Envelope Co., II. 37
United States Steel Corporation, II. 138, 139-43, 171, 229
United Traction & Electric Co., II. 190, 195, 206

Vander Voort Brothers, II. 322
Vermont Marble Co., II. 31, 36
Vesta Accumulator Co., I. 314
Virginia Railway & Power Co., II. 121

Wage adjustments, I. 17
Wages, factors involved in determining, I. 45
Wage rates, in department stores, II. 255
Wage systems, effect of variations in, I. 8; types of, I. 19-101
Wagon boys, bonuses for, II. 283
Wagner Electric Company, II. 379, 391
Wanamaker stores, II. 280
Ward & Ward, I. 232
Wayne Knitting Mills, II. 119
Weir Frog Co., I. 140
Wennerlund, E. K., I. 130
Western Electric Co., II. 229
Western Union Telegraph Co., II. 187, 188, 195, 214, 229
Westinghouse Air Brake Co., II. 229
Westinghouse Electric Company plans, I. 36; II. 5
Westinghouse Lamp Co., I. 291, 295, 296
Wheeling Steel Corp., II. 157, 171
White Sewing Machine Co., I. 312; II. 180, 185, 195, 197
Wickwire Brothers, Inc., II. 182, 198
Wilbur & Sons, H. O., II. 118
Willys-Overland Company, II. 123
Winship Boit & Co. See Harvard Knitting Mills
Wolfe, F. E., I. 149
Woodbridge, C. K., II. 332
Woodward & Lothrop, II. 274
Woodworth, Lee Day, II. 31

Yawman & Erbe Mfg. Co., I. 290
Yellow Cab Company, I. 226
Youngstown Sheet & Tube Co., II. 172

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